

HARVARD MEDICAL

ALUMNI BULLETIN

SPRING 1986

A photograph of a man and a young child in a domestic setting. The man, on the left, is kneeling on a grey carpet, wearing a light-colored jacket over a plaid shirt and blue jeans. He is smiling and looking at the child. The child, on the right, is standing and wearing denim overalls over a striped shirt. The child is also smiling and looking at the man. In the background, there is a bookshelf filled with books and a painting of purple flowers. A red and white Santa hat lies on the floor in the foreground.

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Cover: Joey (Josef) Miler and his father, also Josef Miler, an experimental machinist at Boston University, at the Harvard Medical Area Children's Center. Joey's mother, Veronica Miler, is a resident in anesthesiology at Massachusetts General Hospital. The center, open for less than two years, serves a capacity crowd of around 20 infants and toddlers; the waiting list numbers over 100. Photo by Jerry Berndt.

Spot illustrations on pages 20, 24, 27, 28, 31, 37, and 40 by Katherine Mahoney.

INSIDE H.M.A.B.

One of the signs of the times we came across in putting together this issue on doctors and family is the status of the Harvard Medical Area Children's Center, which served as the location for our cover photograph. Less than two years old, the center is up to five times more difficult to get into than Harvard Medical School itself. Its applicants' parents—mostly doctors and scientists—are close to having it all. They just need day care for their children.

The story starts with pregnancy. The demanding residency years coincide with a woman physician's last best physiological chance to conceive and bear children. In our first feature in this issue, psychiatrist Maureen Sayres reports on a study of pregnancy during residency, and explores the ways a changing social order is challenging the rigid structure of medical training.

In pieces adapted from an all-day conference on parenting, psychiatrist Roberta Apfel explores the emotional imperative to have it all, and scientist Daniel Goodenough writes movingly about a time he was forced by circumstance to be the only caregiver to his two children, one a newborn infant.

Psychiatrist Kathryn Kris '59 contributes insights from a series of workshops she and her colleagues have held in the past two years for students concerned about whether medicine and personal relationships can co-exist.

In a discussion with six medical students whose parents are physicians, psychiatrist John Mack '55 elicits reflections on a bygone age and projections to an unknown future.

Then George Richardson '46, former editor of the *Bulletin*, tells us of his childhood memories of his father, a surgeon who suffered a stroke that altered the course of his life. And Margaret Warner '87 analyzes James Jackson Jr.'s struggle 150 years ago, revealed in letters between him and his father, in choosing between two medical mentors.

Also in this issue is the inaugural article in a new series on the status of minorities at Harvard Medical School. We start with a piece on minority faculty by Clyde Evans, director of the Office for Academic Careers.

—LWD

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ALUMNI BULLETIN

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Let Us Now Praise Famous Men

Reaching Across the Chasm

Thank you for sending me the winter issue containing "Strangers in a Strange Land: Students Enter the World of Boston's Neediest." I found the articles by participants in the Urban Health Project revealing, often moving, testimony to the benefits of venturing outside one's own bailiwick into the lives of the poor and the powerless.

I shouldn't have been surprised by this undertaking, for Harvard Medical School is fortunate to boast the services of Robert Coles, the boldest, most imaginative practitioner of this kind of work. As Coles writes in his comments that accompany the Urban Health pieces, it would be helpful for doctors—as well as lawyers, social workers, academicians, and journalists—to get beyond the abstract labels of "homeless," "alcoholic," "indigent," and "culturally disadvantaged," to see these people whole. He invokes writers George Orwell and James Agee, who reached across the social, economic, and cultural chasm to experience the lives of ordinary men and women. To that list should surely be added the name of Robert Coles. Harvard's medical students are lucky to be able to draw on his compassion and moral leadership.

I was equally impressed by the insights of the student writers: Adam Silk's perception that "the upscale image the city [Boston] has worked so hard in recent years to project represents only a few neighborhoods"; Margie Retondo's understanding of "the fundamental human need of being listened to" and the "overwhelming anger at a society that has failed almost completely in its obligations to protect its most vulnerable members"; Claire McCarthy's grappling with the "powerlessness" of women alcoholics at Womanplace, and her appropriate willingness to

end the summer "with many more questions than answers"; Janet Kinnane's view of the homeless at St. Francis House as "individuals with lives at least as complex as my own"; and Andrea Ewing's ability to look beyond the pitiful condition of patients at Martha Eliot Health Center to "appreciate their resilience and strength."

There is much more of value in these essays. I applaud HMS for giving these future doctors this rare opportunity and the *Bulletin* for publishing these compelling testimonials.

—J. Anthony Lukas

Speak, Memory

The late John Enders, who was profiled in your winter issue, showed me great kindness when I became ill as a second-year medical student.

In the fall of 1940, I was taking bacteriology, among other subjects. Because of a slip in technique, I acquired typhoid fever. As it happened, the typhoid culture with which students were working that year was a fresh, highly virulent strain, recently obtained from a carrier. I became gravely ill and spent nine weeks in the hospital.

This prolonged illness disrupted my second year. I probably would have had to drop out of medical school (which in 1940 would have meant that I would have been drafted immediately), had not a plan been worked out by which I could obtain credit in bacteriology by working in the laboratory at the Brigham under the late Charles Janeway. With the aid of John Enders, I was thus able to finish the year with my class. Throughout my illness, Enders showed the greatest concern.

—Bruce A. Harris Jr. '43A

The letter in the winter 1985 issue by George A. Higgins Jr. '42 gives a false impression of the late Walter B. Cannon. He was anything but authoritarian (even though he may have seemed so to a frightened freshman).

In 1939, the same year Higgins talked to Cannon, I had a Commonwealth Fund fellowship. I applied to Cannon to work on vascular tone, and he asked how I would like to approach the problem.

After I explained my theory to him (the details are unimportant—it was wrong, anyway), Cannon responded: "Well, if you are right, it will run counter to much of my own thinking, but go to it. More power to you!"

This is the story I tell residents and medical students as characteristic of Cannon.

Because of Cannon's flexible, tolerant, truly scientific attitude, the year I spent in his laboratory proved to be the best of my life, intellectually speaking.

He expressed the same attitude, extending to all sorts of social and political questions (this was the time of the Spanish Civil War), at the famous daily afternoon teas, attended often by people from other departments, such as Edwin F. Cohn, who was engaged in his monumental work on the fractionation of plasma proteins.

Later, when we had a minor disagreement about a reference to the literature and I proved to be right, Cannon sent a postcard from New Hampshire admitting his error.

He wrote, "Crow is not such bad eating if it is well seasoned with humility."

Incidentally, Cannon was never a Nobel laureate. He should have been, but he wasn't.

—Philip M. LeCompte
Pathologist emeritus,
Faulkner Hospital

The reference to John Homans in a past issue evoked the following reminiscence:

During my first operation with John Homans, when I was a fourth-year medical student, I busied myself finding little bleeders to clamp. Finally, he stopped his own activity, drew back a little, peered down at me over his half-moon glasses, and said, "Thee here, young fellah, if I want to kill thith patient, I want to kill her mythelf, thee!"

—Theodore H. Ingalls '33

Tales of Miracle Drugs

When I read the reminiscences of Joseph Placak Jr., it occurred to me that an experience of mine might be of interest.

Fifty years ago, when I was in London on a Harvey Cushing fellowship from HMS, my wife phoned John Fleming, an executive in a business related to her family's interests in the U.S. The following day being Derby Day, he cordially invited us to join his party at Epsom Downs—adding that I would probably enjoy meeting his brother, who was also a physician.

While the rest of the party watched the races from the stands, Alexander Fleming and I wandered about the bazaar-like enclosure of the racetrack, which was cluttered with booths and hawkers. Over a few beers we discovered a common interest in surgical wound infections. During World War I, Fleming had worked extensively with Sir Almroth Wright on both traumatic and surgical wounds. I had spent the previous year studying wounds in the HMS surgical research laboratory.

After reading reports advocating soap and water, alcohol, hydrogen peroxide, and even dilute tincture of iodine to sterilize contaminated wounds, I experimented with these procedures and found that they uniformly increased the likelihood of a suppurative infection. Even extensive irrigation with physiologic saline solution was deleterious.

I had assumed that this harmful effect was due to lowered resistance of the injured tissue. Fleming suggested that a likely explanation was a lethal effect of the cleansing measures upon the polymorphonuclear leukocytes. He invited me to discuss the problem further in his laboratory the following day.

Fleming's laboratory in St. Mary's College Hospital was a rather small, square room containing racks of test tubes, petri dishes, several Bunsen burners, a small incubator—and little else. He described in detail his studies of the effect of bacteriocidal agents on the polymorphonuclear leukocytes of freshly shed human blood. Preparations containing blood, culture medium, and a virulent strain of staphylococcus or streptococcus were inoculated with gradually increasing amounts of phenol. Untreated tubes tended to eliminate the bacteria, whereas the introduction of phenol progressively increased the number of surviving colonies until both leukocytes and bacteria succumbed. The leukocytes proved to be more susceptible to phenol than were the bacteria. I was fascinated by the simplicity of the experiments and their clinical implications regarding the current futility of attempting to sterilize the bloodstream in bacteremic conditions.

Fleming then described his main preoccupation of the moment: the inhibitory effect of *Penicillium* mold upon the growth of certain bacteria. The flourishing cottony patches of *Penicillium* that frequently contaminated incubating cultures were an annoyance to bacteriologists. The clear halo surrounding the patches, where the staphylococcus or streptococcus failed to grow, were considered little more than part of the nuisance. Fleming had found that the introduction of a small amount of the mold extract would completely destroy bacteria in a culture tube. Though I found these observations interesting, I was more impressed by his studies of polymorphonuclear leukocytes.

A year or so later, penicillin became available, and the era of antibiotics dawned. I am continually impressed that this epochal discovery did not result from a heavily financed "crash" program, but from the simple observation of an inquiring and receptive man working with minimal tools in a small laboratory.

At the time I met him, though of course he was not yet knighted, Alexander Fleming was well recognized in his country for his achievements in bacteriology. He was a fellow of both the Royal College of Surgeons and the Royal College of Physicians—a rather unusual achievement, I was told. Yet his delightfully modest demeanor was completely lacking in condescension toward a fledgling surgeon from the U.S.

A few years later I corresponded with Fleming regarding the length of time the polymorphonuclear leukocyte might be expected to survive and remain actively phagocytic in shed blood. I was pleased to be able to credit this data ("about three days") to a "personal communication from Sir Alexander Fleming."

—Philip Shambaugh '30

Reading "A Christmas Past" by Joseph C. Placak brought back a memory. In late 1936, when I was in the month-long pediatrics rotation of my internship at Hartford General Hospital, we admitted a patient with meningitis. None with that disease had ever survived at the hospital. We had just heard about sulfa, and called all over Boston and New York to try to get some. The last place we called in New York said to try the Eastman Kodak Company. Surprisingly, they had some, and we started treatment. This patient was the first to survive. We were a little apprehensive about the blue color that developed, but it all went away when we stopped the treatment. It was a great experience and the beginning of all the antibiotics we have today. I have now been retired for 10 years, but I always say we in my age group practiced in the best era.

—George C. Howard '35

Congratulations on the fine tribute to John Enders in the winter issue. All alumni are proud of him and his accomplishments. When I was a second-year student, he was one of the laboratory instructors in bacteriology (as was Sidney Farber in pathology).

Joseph Placek's article in the same issue reminded me of a prelude to the Roosevelt incident he describes.

At about the time Placak was at MGH, I was a house officer at Infants and Children's Hospital (as Children's Hospital was then called). Not long before Prontosil was used on young Roosevelt, we admitted a young child suffering from generalized erysipelas. At the next day's residents' conference in the office of Kenneth Blackfan, chief of the medical service, we discussed the usual fatal outcome of this disease. A visiting resident from Babies Hospital in New York asked why we hadn't tried Prontosil.

"What is that?" we asked. Harry Dietrich '32 said he thought it was the medicine Hans Zinsser had, but could get no one to try. (Neither FDA nor Human Experimental Committee approval was needed then.) We procured some Prontosil and administered it. The child made a miraculous recovery.

Shortly afterward, when Blackfan consulted Harris P. Mosher, ENT chief at MGH, about his own chronic sinusitis, Mosher told him of the difficult problem he was facing with young Roosevelt. Blackfan described the ICH experience with Prontosil and suggested that he try it. Joe Placak's story of treating Franklin Roosevelt Jr.'s streptococcus infection with Prontosil begins at this point.

Sulfanilamide (which we then knew as Prontylin, into which Prontosil is broken down in the body) was truly a miracle drug. The only modern equivalent would be the sudden availability of a relatively safe and effective antiviral agent against AIDS.

As far as I know, the derivatives of this agent, particularly sulfathiazole and sulfadiazine, were mainly responsible for the urine crystal problem. Sulfanilamide's worst side reaction was induction of methemoglobin formation with resulting clinical cyanosis, acidosis, and hemolytic anemia. But that is another story.

—George B. Logan '34

Wearn's Method

I would like to add a footnote to the memorial by Robert Ebert about Joseph T. Wearn in the fall 1985 *Bulletin*.

In the late 19th and early 20th centuries, there was a tremendous controversy between Carl Ludwig and William Bowman about the nature of urine formation. Ludwig believed that urine resulted from differential absorption of water and solutes by the epithelium of the renal tubules after the formation of a protein-free filtrate of plasma in the glomeruli. Bowman (and Heidenhain) thought solutes were secreted by the tubular epithelium into water that gained access to the tubules in the glomeruli.

In the early 1920s, Joseph T. Wearn went to the Department of Pharmacology of University of Pennsylvania to work with Alfred N. Richards. Richards and his colleague Carl F. Schmidt had recently discovered that the capillaries in the frog's kidney

were visible through a microscope.

As Schmidt explained in a 1969 article about Richards (*Annals of Internal Medicine*), "Wearn quickly improved the technique for microscopy of the living frog kidney and was directly responsible for the start of the series of definitive chemical studies on glomerular, tubular and bladder fluid that were the crowning achievement of Richards' laboratory."

After seeing a demonstration of Robert Chambers's new capillary pipette, Wearn proposed that it should be possible to withdraw fluid from the glomerular space for chemical comparison with bladder urine.

Schmidt continues:

The result was one of those simple, direct, unambiguous experiments that researchers dream of but seldom attain. The equipment was soon assembled and once the technique was perfected, it was possible to withdraw clear fluid from the glomerulus through a fine quartz pipette introduced through the capsule of Bowman. This fluid gave a positive test for chloride (by precipitation with silver nitrate) and for glucose (by reduction of Benedict's solution). Bladder urine, simultaneously collected, contained neither. Obviously two normal urinary constituents had been absorbed somewhere between the glomerulus and the bladder.

Determination of chloride in the tiny amounts of fluid withdrawn from the glomerulus posed great difficulty in this era before tagging with radioisotopes became possible. Wearn and Richards described the painstaking process in a 1924 paper in the *Journal of Biological Chemistry*:

All the details of analysis were conducted in a small room, 5 feet square and 8 feet high, having one door and no windows. The walls and ceilings were covered with black cloth. An hour or two before beginning analysis, the cloth and the floor were thoroughly sprayed with water. While making the analyses, each of us wore two laboratory gowns, the outer of which was soaking wet with water. It was only after the adoption of these precautions that we were consistently able to avoid contamination of our solutions with dust.

Wearn himself recalled in a 1969 tribute to Richards (*Annals of Internal Medicine*):

When I got into the problem of trying to withdraw glomerular fluid,

the work proved to be so delicate that we could not have any interruptions or even heavy footsteps that shook the apparatus. Therefore, I began to work at night, when the only visitors to my laboratory were a friendly mouse and an occasional cockroach.

Richards came in one evening and, seeing the light in my laboratory, looked in and from that time on throughout the time I worked with him, he came into the laboratory frequently . . . in the evenings.

A preliminary report of our findings was made in Edinburgh at the International Physiological Congress in 1923. We took American frogs with us but they did not survive the crossing of the Atlantic and when I prepared to set up a demonstration of a glomerular puncture, I had to use Scotch frogs. Richards arranged for a quiet room and I had a very difficult time as the Scotch frogs were very thrifty with their glomerular filtrate. Some of his friends began to come into the room before we were ready and when I finally succeeded in getting the pipette into a glomerulus, Richards introduced me to them. Among them were Dale, Krogh, Bayliss, Starling, and Cushny. Had I known who were peering over my shoulder, I'm quite sure the pipette never would have hit the kidney, much less the glomerulus. . . .

The years spent with Richards were among the happiest and most satisfying in my life.

—Rex L. Jamison '60

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ALUMNI COUNCIL: PRESIDENT'S REPORT

Retreat Review

by Clement A. Hiebert

Like the two-headed Janus, from whom the first month takes its name, the January retreat of the Alumni Council offered a look behind and a look ahead as we pressed for new ways to be useful to administration, students, and alumni. After a working dinner on Thursday evening, we divided into three discussion groups, each with a leader, a panel of consultants, and a finely honed agenda. On Saturday afternoon we regrouped for a report session. Herewith, a brief sampling of ideas from the retreat.

Committee to Review the Mechanism of the Council and its Usefulness to the Administration

Adolf Karchmer '64, chair. Members: Jim Pittman '52, Lon Curtis '56, Will Cochran '52. Consultants: Joseph Murray '43B, Bradford Cannon '33, Daniel Federman '53, Perry Culver '41, Carl Akins '66.

Though the council is neither charged nor empowered to function in an administrative role, it needs to be listened to—indeed, to be solicited for its opinions. As a sounding board sensitive to the concerns of both alumni and administration, it has been underused over the years.

The council needs a continual flow of fresh ideas from individual alumni, regional groups of alumni, HMS standing committees, and reports generated by the biennial Visiting Committee of the Harvard Board of Overseers. Ring up your councilor! Write the *Bulletin*! This is *our* school; we owe it ideas.

We also owe it money. Right now the greatest gift each of us can make is to identify and cultivate individuals of good will who can help with the New Pathway. The council gives a ringing endorsement to this plan for excellence in teaching.

After considerable debate, the committee concluded that, to maintain continuity of council leadership,

the president-elect should serve for two years, then be president during his third and final 12 months. The plan is to be considered at the spring meeting and, if accepted, placed on the agenda for a vote at the Alumni Day business meeting.

Finally, the broadest possible list of nominees for the council slate is critical. The committee hopes alumni everywhere will suggest names.

Committee on Student Affairs

David Marcello '56, chair. Members: Barbara Bierer '80, Diane Kittredge '72, John Stoeckle '48, Paul Ramsey '75. Consultants: Carola Eisenberg, dean for student affairs; Daniel Federman '53. Students: Alan Hartford '88, Paul Farmer '88, Tammy Fountain '88.

Financial aid is the single most important issue for students and administration. Carola Eisenberg explained that when the Class of 1985 left HMS, it collectively owed over \$5 million, and that HMS's help is spare compared to that given by other medical schools. The committee recommends that the subject of financial aid and student loans remain a standing agenda item for both the newly formed Student Alumni Committee (which will promote development of alumni awareness during the HMS undergraduate years) and the Alumni Council.

Living space is a close second on the list of urgent student needs. Housing and athletic facilities, despite recent changes in Vanderbilt Hall, are limited.

Alumni Office visibility with students is not as high as it should be, despite sponsorship of both a new Alumni Day student essay contest (providing a \$1,000 prize) and the Match Day dinner—at which alumni are understandably in the background. Funding for this year's new Parent's Day luncheon has been rec-

ommended and agreed to. Various minor purchases and other support for recreational activities need to be clearly identified as alumni gifts.

A fourth-year clinical clerkship network project was suggested to provide the 85 percent of fourth-year students who serve a clerkship outside of Boston with a resource alumni in the city of study.

Committee to Review Alumni Involvement

Claire Stiles '56, chair. Members: George Bernier '60, David Challoner '60, Martin Greene '65, Bradford Patterson '50, Benson Roe '43A. Consultants: Robert Lawrence '64, Perry Culver '41, Joseph Murray '43B, Gordon Scannell '40, Melvin Osborne '42, Preston Black '75, Lisa Guay-Woodford '83, Carl Walter '32.

The Alumni Association's involvement should begin before students graduate, and be strengthened with as many personal contacts as possible.

It was strongly felt that the Alumni Association should give students some tangible symbol at graduation. A short letter should explain the association's goals and plans, but no financial requests of any kind should accompany the gift.

Consideration was given to the organization of sessions dealing with medical economics, malpractice, and third-party considerations in place of a portion of the regular scientific symposia.

There is a need for a computerized list of alumni with data on demographics, past involvement with the school, and volunteered or recommended service. The list should also include recent graduates' evaluations of how well their training prepared them for their current practice.

The committee felt that council officers should be nominated from former council members to ensure maximal influence and continuity of

our organization on the school. However, the entire alumni body—not just the council—should vote in the election. Broad representation by geography and practice interest is the goal.

These, then, were some of the main

points discussed at the retreat. An agenda committee will consider them and other ideas as they are brought to the attention of the council. Do write. We will read all letters, and will answer as many of them as possible. □

PULSE

Genetics Program Links Hughes Institute, HMS, Children's Hospital

In what Harvard president Derek Bok calls a "precedent-setting program," Howard Hughes Medical Institute will spend more than \$23 million to support genetics research at Harvard Medical School and Children's Hospital. The HMS Department of Genetics will receive \$6.1 million to expand its investigations; \$17 million will go toward construction of a new

\$54 million research building at Children's Hospital.

In addition to the new genetics program—one of the largest concentrations of HHMI resources—the institute will continue its ongoing support of investigations in metabolism and neuroscience at Massachusetts General Hospital. Altogether, HHMI plans to devote \$100 million to research at HMS and its affiliated hospitals in the next five years.

"Through such cooperative agreements with universities and teaching hospitals," says HHMI president

Donald S. Fredrickson, who directed NIH from 1975 to 1981, "the institute is best able to fulfill its chartered purpose—promoting knowledge in the basic sciences and the effective application of this knowledge for the benefit of humanity."

HHMI was founded by aviator/industrialist Howard Hughes in 1953 with advice from, among others, HMS professor George Thorn (see related story). A medical research organization rather than a foundation, it directly employs the scientists it supports—all of whom must have academic appointments at their respective universities. The 22 HHMI laboratories now active or being established in academic medical centers in 14 states investigate metabolism, immunology, neuroscience, and genetics.

"By choosing to establish this major expansion of their genetics research enterprise here," says President Bok, "the Hughes Institute is acknowledging the strides that have already been made by Harvard Scholars."

"We're proud of the opportunity to link up with the world capital of medical research," acknowledged Fredrickson at a February press conference. "We call this the fertile crescent." Fredrickson says he expects that, between the HMS Genetics Department and Children's Hospital, 15 to 20 scientists will be appointed HHMI investigators. So far, three have been named.

At the HMS Department of Genetics, chairman Philip Leder '60, John Emory Andrus Professor of Genetics, recently became senior HHMI investigator. Leder will direct the HMS/HHMI Program in Genetics. The department is now recruiting senior and junior faculty members, who may become HHMI investigators.

David Nathan '55, Robert Stranahan Professor of Pediatrics at HMS and physician-in-chief at Children's Hospital, will head the HHMI genetics program at the hospital. Two Children's scientists, Stuart Orkin '71 and Bernardo Nadal-Ginard, have been named HHMI investigators.

Leder and Nathan discussed some highlights of their labs' research at the press conference.

Recently, Leder and colleagues succeeded in creating a strain of mice with an inherited tendency toward developing breast tumors. The team had earlier discovered the *myc* gene, which, when inappropriately regulated, is associated with Burkitt's lymphoma.



Left to right: Philip Leder; Purnell Choppin, HHMI vice president and chief scientific officer; Dean Tosteson, George Thorn, Donald Fredrickson

phoma—a major malignancy in children in sub-Saharan Africa. To test whether the oncogene alone is sufficient to cause disease in mice, the investigators replaced its control with one for breast tissue.

The resulting strain of mice showed that presence of the oncogene predisposes mice toward breast cancer, but that some additional event is necessary to trigger tumor growth. This work may in time help scientists learn how genes control cancer initiation at the molecular level.

Leder gave an example of how research can sometimes yield results in unrelated fields. In one case, the *myc* gene inserted in mouse egg cells apparently caused a mutation in another gene. The resulting mice were born with extremely short legs. Investigators can now isolate and sequence that mutated gene, which may provide insights into some forms of dwarfism.

At Children's Hospital, David Nathan and colleagues investigate thalassemia (Mediterranean anemia) which, untreated, is often fatal in its severe form. Their long-term goal involves curing the genetic disorder by removing patients' bone marrow, ge-

netically altering it, and replacing it, enabling the patient to produce functionally normal hemoglobin.

A prenatal test for thalassemia developed by Nathan and colleagues has led to a marked reduction in the number of cases. Another benefit is that infants identified by the test can now be treated from birth, rather than waiting until the disease manifests itself.

Thalassemia patients are treated with frequent transfusions. The chelating agent desferoxamine is administered to help protect against iron overload, which is eventually lethal. In the 1970s, Nathan's research team improved the regime's effectiveness by introducing continuous subcutaneous administration of the drug with a pump developed by a member of the team.

HHMI investigator Stuart Orkin, HMS associate professor of pediatrics and associate in hematology and oncology at Children's, has identified the large class of DNA mutations responsible for thalassemia. He is now analyzing the molecular biology of the coagulation system through genetic studies of Von Willebrand's factor, deficiency of which causes

bleeding similar to hemophilia. He is also studying the genetic basis for resistance to infection, and how to insert and regulate genes in living cells.

Bernardo Nadal-Ginard, HMS professor of pediatrics and chief of the Department of Cardiology at Children's, was also recently named an HHMI investigator. His studies of the genetics of the heart's contractile system have shed new light on aspects of gene regulation and cell differentiation. His finding of a contractile mechanism by which a single gene produces several different proteins challenges the traditional "one gene, one protein" tenet of genetics.

The new Children's Hospital research facility will be built next to and integrated with the John F. Enders Laboratories for Pediatric Research. Plans call for construction to begin in mid-1987. The building will provide additional laboratory space for the hospital, as well as house an HHMI laboratory—the largest at any U.S. hospital and the first at a pediatric institution. There HHMI plans a major research program in the clinical applications of molecular genetics. □



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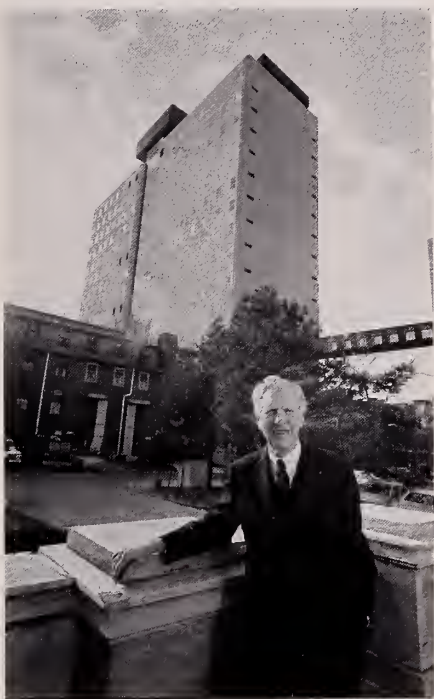
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New Building Name Is Crown for Thorn

In February, endocrinologist George W. Thorn was accorded a rare honor: a building was named for him. The newly constructed biosciences research building jointly owned by Harvard Medical School, Brigham & Women's Hospital, and Howard Hughes Medical Institute is now the George W. Thorn Building for Medical Research. HMS Hersey Professor of the Theory and Practice of Physic emeritus and former chief of medicine at Peter Bent Brigham Hospital, Thorn is currently chairman of the HHMI Board of Trustees.



George Thorn in front of his namesake

The HMS/HHMI genetics program will occupy three floors of the 16-story building, which is located at BWH, diagonally across Shattuck Street from Building A. The HMS Genetics Department occupies an additional four floors; BWH laboratories fill remaining floors.

At a black-tie dinner honoring Thorn, Dean Tosteson described him as "that rare physician who has made significant contributions in each of the career paths in medicine—teaching, research, and patient care."

Until his retirement in 1972, Thorn

was known for his extensive contact with students, interns, and residents. Of those he trained, 27 have gone on to chair medical school departments. A founding member of *Harrison's Principles of Internal Medicine*, Thorn served as editor-in-chief of the text's eighth edition.

"In his own career, and in his ability to foster the research careers of others," BWH president H. Richard Nesson told the dinner guests, "George Thorn has been a key figure in improving treatment for patients everywhere."

Early in his career, Thorn helped devise a treatment for Addison's Disease, which had previously almost always been fatal. Later, his leadership helped bring the then new technology of kidney dialysis to Peter Bent Brigham Hospital.

In 1953, Vernon Mason, physician to Howard Hughes, asked Thorn to help advise Hughes on a way to foster improvements in health care. Thorn and several other physicians suggested an "institute without walls" to support researchers at hospitals and medical schools.

Since that time, Thorn has served HHMI in numerous capacities, including director of medical research and chairman of the Medical Advisory Board, before becoming chairman of the Board of Trustees. With the recent sale of its sole asset, Hughes Aircraft Company, HHMI became the largest private supporter of research in the U.S. □

Steps Along the New Pathway

As 24 students make their way through the first year of the New Pathway in General Medical Education, its design, planning, implementation, and evaluation continue apace—thanks in part to a three-year, \$3 million grant from the Henry J. Kaiser Family Foundation. The grant gives a boost to major gifts from other foundations, corporations, and individuals (see Pulse, spring 1985 issue), and to the \$12,000 in smaller amounts received to date from individual donors, many of them alumni.

The New Pathway integrates clinical and basic science elements through all four years. In their first and second years, students participate in problem-based learning sessions in small groups; learn to take histories and do physicals during pre-

ceptorships that continue throughout their years at HMS; and use computers for everything from basic science simulations to literature searches to electronic mail. Their curriculum is arranged in blocks called The Body, Metabolism of Matter and Energy, Identity and Defense, Life Cycle, Information Processing and Behavior, and Human Systems.

In the third and fourth years, students will concentrate in six sections called Medicine, Surgery, Maternal and Child Health, Neurology, Psychiatry, and Ambulatory Care. The curriculum leaves time for electives, basic science review, and pre-internship preparation. Before graduating, each student must write a thesis or carry out a project of his or her choice.

"We believe that an emphasis on self-directed learning, with a de-emphasis on formal lectures and memorization of facts, is more likely to lead to continuous updating of knowledge and strengthening of the repertoire of medical responses over a professional lifetime than the present system," Kaiser Family Foundation president Alvin Tarlov wrote in a letter informing Dean Tosteson of the grant. "The emphases in the curriculum on humanism (patient-doctor topics) and on health promotion are intended to help [the students] acquire the characteristics of really fine physicians."

The Kaiser Family Foundation, located in Menlo Park, California, supports programs strengthening the general education of physicians, and promotes innovations in the organization and financing of health care, commitment to health promotion, and concern about the responsibility of the medical profession for greater interest in healthy behaviors.

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"The New Pathway addresses these issues in forthright, comprehensive and energetic ways," Tarlov's letter concluded.

The Kaiser Family Foundation grant was given, in part, in the hope that the New Pathway will prove to be a model for other medical schools. The foundation previously funded the project that produced *Physicians for the Twenty-first Century: The GPEP Report* (Report of the Panel on the General Professional Education of the Physician), which recommended many of the educational reforms central to the New Pathway. □

A Tradition of Leaders

The Leaders in American Medicine program at Countway Library, conceived by George E. Gifford Jr. in 1974, traditionally recognizes distinguished personalities in medicine and dentistry. All those selected for this year's program are founders of one sort or another, individuals who have started traditions of their own. This year's combined film and discussion series honors seven specialists in pediatrics, plastic surgery, preventive medicine, infectious diseases, or dentistry. Four are HMS graduates and two hold appointments at HMS-affiliated hospitals.

Programs presented in October, November, March, and May were "Pediatrics at the Harvard Medical School," which focused on contributions of colleagues Louis K. Diamond '27 and Clement A. Smith; separate sessions devoted to David D. Rutstein '34 and Louis Weinstein; an afternoon honoring both Bradford Cannon '33 and Joseph Murray '43B, and a final program devoted to Henry M. Goldman.

This year's series commenced in October with a program devoted to Louis K. Diamond and Clement A. Smith, HMS professors of pediatrics emeritus. The two met in 1931, when Smith arrived for pediatrics residency at Children's Hospital, where Diamond was a junior assistant physician. Their paths have crossed many times over the years, and their careers have been in some ways parallel. During the '20s and '30s both were students of Kenneth Blackfan, Children's Hospital's chief of pediatrics; in 1963, both became full professors at HMS; and both have been instru-

mental in major advances in neonatology.

Diamond, who has been cited by colleague David Nathan '55 as "one of the leading developers of the field of pediatric hematology in the world," spent all of his professional life at HMS and Children's Hospital, except



Louis K. Diamond

for a two-year leave to serve as medical director of the developing National Blood Program for the American Red Cross. In 1932, with Blackfan and James Baty, Diamond published the first description of the blood disorder erythroblastosis fetalis and its association with fetal hydrops (severe edema), neonatal jaundice, and Rh disease of the newborn. In 1946, with F. H. Allen '38, Diamond developed improved techniques for detecting antibodies in the blood of pregnant Rh-negative women, and devised an effective technique for exchange transfusion in affected infants. The procedure has saved thousands of children from cerebral palsy, mental retardation, nerve deafness, and death. In 1946, Diamond received the Mead Johnson Award of the American Academy of Pediatrics.

Diamond helped found a laboratory for the clinical, biochemical, and chromosomal study of human genetics at Children's Hospital, and established the Blood Grouping Laboratory for the study of the Rh factor, blood transfusion problems, and management of pregnancy. In 1948, he became technical director for the newly created National Blood Program of the American Red Cross. Diamond is also noted for improving treatments for anemia. He has investigated the effect of nutritional inadequacies on blood, and has studied

anemia in infants and children from the Middle East, tropical Africa, and Latin American countries.

One of the earliest neonatologists is Diamond's colleague Clement Smith, who has performed pioneer research on the respiratory and hematologic problems of the newborn. Prior to his work, newborn research had been limited to animals; studying infants in the first few days of life was considered risky. Smith's work led to studies of fetal hemoglobin and iron metabolism, red blood cell carbonic anhydrase, the metabolism of water and electrolytes, maternal-infant nutritional relationships, and disturbances in the circulation.

Smith was the first pediatrician to work full time at an obstetrics hospital, the Lying-In Division of Boston Hospital for Women. In the 1940s Smith studied the effects of maternal undernutrition on the newborn infant in Holland. For this research he was awarded the 1962 Borden Award of the American Academy of Pediatrics. He is author of the classic *The Physiology of the Newborn Infant*, published in 1945, and in 1983 published *The Children's Hospital of Boston: "Built Better Than They Knew,"* a history of Children's Hospital. For many years he was editor of *Pediatrics*.

Between them, Diamond and Smith have trained nearly 150 fellows. Both have received the Howland Award of the American Pediatric Society, the highest honor a pediatrician can receive.

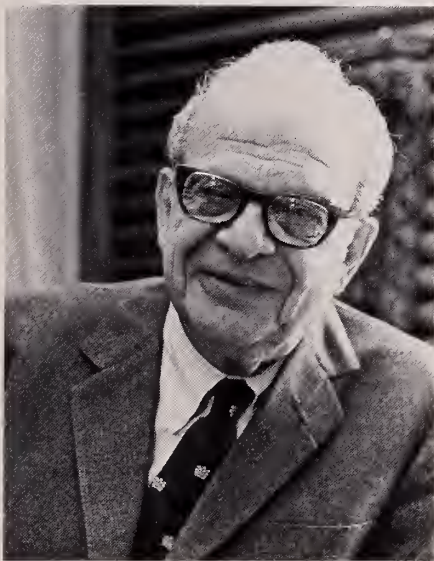


Clement A. Smith

Discussants for this session were Mary Ellen Avery, HMS Thomas Morgan Rotch Professor of Pediatrics; Thomas E. Cone Jr., HMS clini-

cal professor of pediatrics emeritus; and pediatrician Alexander S. Nadas of Children's Hospital.

The November program honored David D. Rutstein, HMS Ridley Watts Professor of Preventive Medicine emeritus, who died a few months later. Rutstein became head of the newly formed HMS Department of Preventive Medicine in 1947. Author of the 1967 text *The Coming Revolution in Medicine*, he was well known for his advocacy of health care system reforms, and for his innovative teaching of preventive medicine as integral to clinical care. He was also known for his research and international consulting on heart disease, particularly rheumatic fever. His 1974 book *Blueprint for Medical Care* provides ways of measuring health status



David D. Rutstein

of a population and the effects of health care upon it, and includes a list of more than 200 diseases and clinical conditions according to whether they are preventable, manageable, or both. Rutstein also worked with colleague Richard L. Veech '62 on the hypothesized biochemically-determined susceptibility of alcohol addiction. Other projects included a collaborative effort with colleagues at the National Institute for Occupational Safety and Health to identify diseases and disorders related to the workplace.

Discussants for this program were Charles S. Davidson, HMS William Bosworth Castle Professor of Medicine emeritus; John R. Hogness, president of the Association of Academic Health Centers in Washington, D.C.; and Gilbert S. Omenn '65, professor



Louis Weinstein

of medicine and dean of the University of Washington School of Public Health and Community Medicine in Seattle.

The third program highlighted the career of Louis Weinstein, professor of medicine emeritus at Tufts University, lecturer in medicine at HMS, and senior consultant in medicine at Brigham & Women's Hospital. An infectious disease specialist, Weinstein has trained more than 100 fellows at HMS, Yale, Boston University, and Tufts. From 1947 until 1957 he was physician-in-chief at Haynes Memorial Hospital in Brighton. During that time he served on the teaching and consultative staffs at HMS, Harvard School of Public Health, BU, Tufts, and their affiliated hospitals. He left Haynes to become senior physician-in-chief of the Infectious Disease Service at Tufts New England Medical Center. There he established a formal training program in infectious diseases modeled on a similar program he had set up at BU, and directed and reported on laboratory and clinical research on several antibiotics. He published the first study on treatment of scarlet fever with penicillin, and also reported the first use of streptomycin to cure influenzal meningitis.

Weinstein taught on the medical staff at Massachusetts General Hospital for 26 years, more than 20 of which he spent in pediatric infectious disease there and at Tufts. In 1975 he left Tufts to concentrate on the study of white blood cells in the Brigham's Infectious Disease Division. He is currently interested in the problems

of immunosuppression in cancer and AIDS patients.

Participants for this session included Eugene Braunwald, HMS Hersey Professor of the Theory and Practice of Physic and Herrman Ludwig Blumgart Professor of Medicine; Bernard A. Fields, HMS professor of microbiology and molecular genetics and professor of medicine; and Morton N. Swartz, HMS professor of medicine.

The March program, "Plastic Surgery at HMS," examined the contributions of long-time colleagues Bradford Cannon '33 and Joseph E. Murray '43B.

"The fountainhead of the plastic and reconstructive surgical effort at the MGH," as John P. Remensnyder '57 once described him, Cannon ran the MGH Plastic Surgical Clinic with V.H. Kazanjian (HSDM '05) in the 1940s. In 1970 he was instrumental in establishing the first plastic surgery residency at MGH, and became first chief of the Plastic Surgical Unit.

Earlier in his career Cannon established a Crippled Children's Clinic at Mount Auburn Hospital; in 1942 he supervised reconstructive and rehabilitative care for victims of the Cocoanut Grove fire who were patients at MGH. During two years of his Army service from 1943 to 1947, Cannon was chief of plastic surgery at Valley Forge Hospital in Phoenixville, Pennsylvania. Under his leadership, the hospital became a national center for the development of reconstructive techniques in the restoration of burned faces, functionless hands, and compound wounds to the lower extremities.

Cannon has also been president of the American Association of Plastic Surgeons, founding member of the

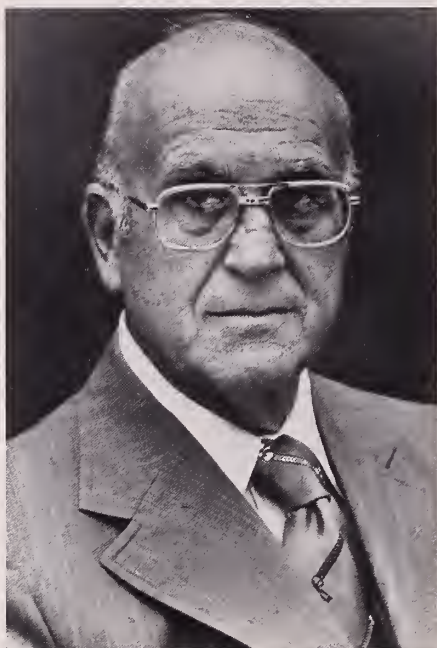


Joseph Murray and Bradford Cannon

American Society for Surgery of the Hand, co-editor of the *Journal of Plastic and Reconstructive Surgery*, and president of the HMS Alumni Association.

Joe Murray is perhaps best known for having performed the first successful kidney transplant in identical twins in 1954 at Peter Bent Brigham Hospital. Murray and colleagues then tackled the problem of transplantation surgery between non-identical donors and patients. Total body irradiation was used experimentally to attempt immunosuppression in kidney transplants. Murray and colleagues worked at counteracting irradiation's high-risk side effects by developing bone-marrow transplantation.

By the early 1960s, total body irradiation was considered too drastic a method of immunosuppression. In 1962, a breakthrough came when a patient whose immune system had been suppressed by azathioprine (Imuran) received a cadaveric kidney transplant and recovered fully. By 1964 the procedure had a 70 percent success rate for related donor/recipients; five years later, the tech-



Henry M. Goldman

nique had been adopted in other countries, and a worldwide kidney registry had been established.

In 1969 Murray returned full time to plastic surgery, in which he had first trained at Valley Forge Hospital during World War II, when he met and worked with Bradford Cannon. In the 1950s, along with his transplant work, Murray had performed major facial reconstructions on patients with head and neck cancers. In 1966 Murray published the first U.S. account of a mid-face advancement, in which the congenitally deformed skull is exposed, cut, and moved to a new location. Murray also helped develop demineralized bone material made from cadaveric bone. This material is now used at Children's and Brigham & Women's hospitals, especially for mid-face advancements and other craniofacial operations on children, who often don't have sufficient amounts of their own bone for reconstruction. Murray is currently chairman of the HMS Alumni Fund.

Discussants for this program included W. Gerald Austen '55, HMS Edward D. Churchill Professor of Surgery; W. Hardy Hendren III '52, HMS professor of surgery; and Francis D. Moore '39, HMS Moseley Professor of Surgery emeritus.

Henry M. Goldman, professor of oral pathology of Henry M. Goldman School of Graduate Dentistry at Boston University, was to be the final subject of the series on May 7. Goldman founded the Boston University Graduate School of Dentistry in 1963 and

served as its first dean until 1977, when it was renamed in his honor. The program has been postponed until next year, due to Goldman's temporary illness.

Described by Boston University president John Silber as "the architect, builder, and financier of a revolution in dentistry," Goldman is an internationally renowned specialist in gum disease and oral pathology. He defined the role of the oral physician, conceived of a school for such specialists, directed its design and construction, and raised the funds to establish and sustain it. The school, the world's first to offer postgraduate education in all recognized dental specialties, offers four professional degrees.

Goldman (D.M.D. Harvard 1935), author of the now standard text *Periodontia*, has co-authored several other textbooks and written more than 100 scientific papers. He is now editor emeritus of the *Journal of Periodontology*. He is past president of the American Academy of Oral Pathology, and has received its Gold Medal. In June 1985, he received a Silver Shingle Award for Distinguished Public Service from BU Law School, where he is a member of the advisory board of the Institute of Jewish Law.

Participants for this program were to be: gastroenterologist Benjamin M. Banks '30; Spencer N. Frankl, current dean of the Henry M. Goldman School of Graduate Dentistry; John R. Silber, president of BU; and Herman Snyder, of the Boston law firm of Snyder, Tepper & Comen.

Leaders in American Medicine is run under the combined auspices of Leroy D. Vandam, HMS professor of anesthesia emeritus; Mark D. Altschule '32, honorary curator of Prints and Photographic Collections at Countway Library; J. Worth Estes, BU professor of pharmacology (history) and associate professor of sociomedical sciences and community medicine; Richard J. Wolfe, curator of Rare Books and Manuscripts at Countway Library and Joseph Garland Librarian of Boston Medical Library; and Mrs. George E. Gifford Jr. The program is sponsored by HMS, BU School of Medicine, the Benjamin Waterhouse Medical History Society, Boston Medical Library, Brown University Program in Medicine, and Tufts University School of Medicine, and is made possible by a grant to Boston Medical Library by Smith, Kline & French Laboratories. □

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Lost and Found in America

by Bill Thomas '86

When I was a boy my mind flew to the West and Midwest on the wings of books while my body remained firmly rooted in upstate New York. Even after I graduated from college and entered Harvard Medical School, I had yet to venture west of Buffalo. After my third year at HMS I knew it was time to see the places and talk to the people I had read so much about.

I resolved to make my voyage on a bicycle. For a student with time and little money, strong legs, and no car, bike touring is the best way to see the country. Unlike a car or train, a bike doesn't put a barrier between me and the people, sights, and sounds I pass. Besides, a bike is the closest thing to a universal symbol of goodwill I have ever found. It rarely fails to elicit a smile, wave, or gesture of friendship from the people I pass.

Some of my classmates thought I was making a mistake. Biking the coast of California might be fun, they warned, but what about the Midwest? Its vast stretches of corn and soybeans would bore a bike rider to tears.

Now, having rolled across the Great Plains, I understand why car people find them so unappealing. Caged in glass and steel, whisking over sterile expressways, car people never get to see the friendly middle-aged man behind the counter of a small-town hardware store, the tree-lined street he works on, and the town he lives in. My bicycle, by forcing me onto the back roads and slowing me down to 15 miles per hour, let me discover the patchwork of communities and personalities that makes up America.

There were times, however, when my faith in bicycle touring wavered. I planned to cover between 75 and 100 miles a day—which means spending eight to 10 hours a day atop an unpadded leather touring seat. My bike, loaded with 65 pounds of supplies, handled like one of those semi-trailers



A bike is the closest thing to a universal symbol of goodwill I have ever found.

that brushed past me on crowded highways. At first I could ride only 15 miles before stopping to allow the circulation to return to my tender buttocks, but after a week I was able to ride 40 miles at a stretch. I fell into a comfortable routine of rising at dawn, breaking camp, and beginning to ride as the sun started to cut away at the morning dew.

In my saddlebags (known as panniers) I packed the most important and frequently used items near the top. A jar of crunchy-style peanut butter was always handy, as well as a loaf of whole-wheat bread and an assortment of apples, carrots, and bananas. One golden rule of bike touring

is to eat before you are hungry and drink before you are thirsty. Also near the top of the pack was the tool kit. The solitary transcontinental biker must be able to make all kinds of repairs, large and small. The most common and minor repair is patching a flat tire. I had about two dozen flats between San Francisco and Boston, which is not bad, considering that each of those skinny tires revolves 2,250,000 times during a 3,000-mile trip.

Just beneath food and tools were the clothes. During my journey I had to contend with 110-degree heat on the floor of Death Valley and below-freezing conditions with wind and snow in the high peaks of Colorado. The sweatsuit, hat, and gloves that seemed an unnecessary burden in the Arizona desert offered protection from frostbite in the Rocky Mountains.

Securely lashed to the luggage racks over the front and rear wheels were a tent and sleeping bag. Every day, when the sun began to set behind me, I turned to the task of choosing a resting spot for the night—outside in a city park or farmer's field, or sheltered in a barn or a church. Often people invited me into their homes for dinner and conversation; other times I watched the stars come out in splendid solitude.

I began my journey with two clear goals. First, I wanted to make my trip as safe as it could be. I read everything I could about bike touring and invested in a lightweight helmet, padded riding gloves (to prevent ulnar nerve palsy), and a mirror. Second, I wanted to explore the lives of the people I met along the way. Though I packed a 35-millimeter camera, I took only three pictures during my time on the road. The bulk of my efforts went into character sketches and essays, some of which were published last summer in the *Grapevine*, a weekly magazine published in Ithaca, New York. Selected vignettes

from my adventure follow, beginning immediately after my flight to San Francisco International Airport.

Skinheads

"Haight Skinheads Claim They're Misunderstood," blared the front-page *San Francisco Examiner* headline. The story described tension that had developed in the wake of violence in the neighborhood.

"We're Archie Bunker when he was young," one young Skinhead, slouching against the street sign at the corner of Haight and Ashbury, told me. "We're not Nazis or racists or fascists. We just believe in the healing of America. We believe in working for a living and not standing in a welfare line."

About 17 years old, slightly built, he sported a thick layer of green mascara and black nail polish. His head was shorn save for a shock of jet black hair that clung to his right temple. Wearing an Army camouflage jacket with sleeves hacked off, a ripped sea-green T-shirt, Levis 501 jeans, Doc Martin boots, chains, and swastika earrings, he didn't look like the young Archie Bunker he claimed to be. His gaze was vacant and his affect flat; he disturbed me in a fundamental way.

The *Examiner* reported that the Skinheads had recently kicked in the windows of the Bound Together Bookstore, a collective operated by a group of committed anarchists. I walked down Haight Street to the bookstore, where I met Tom Berkman, a longtime collective member who had recently returned from "a couple of years overseas."

"The Skins are new here," he told me. "They had been hanging out in the Mission District until the Cholos (gangs of Hispanic males) ran them out."

I asked him about Skinhead politics.

"Most of them are more interested in thrashing—gang violence directed at innocent bystanders—than in politics," he answered. "Anyway, a couple of the ringleaders have read *Mein Kampf*, and they are influenced by Ian Clarence, an Englishman who organized the National Front, a far-right neo-Nazi group of English punkers."

As he spoke, he pulled a battered manila folder from a file cabinet and fished out a leaflet the Skinheads had circulated throughout the neighborhood. It bore a large, poorly drawn eagle with "AF" on its breast. "That's the emblem of the American Front,

the National Front's younger cousin," Tom said. It read: "We will use every means at our disposal to protect the middle class from the disease-spreading scum of the Earth. . . ."

The Skinheads had harassed pedestrians and taunted merchants. The owner-operator of a popular pizza parlor, who happened to be both Jewish and a Hell's Angel, had been trou-

Where else but California would Hell's Angels side with gays and anarchists against Skinheads on cable TV?

bled by the Skins' unruly behavior and anti-Semitic name-calling in his restaurant. The gay community was on edge because of threats of violence against homosexuals.

The Haight is not an ordinary neighborhood and neither was its response to the Skinheads' flyer, harassment, and violence. All parties involved believed the police could do nothing; indeed, they had done nothing to date. A coalition of Hell's Angels, anarchists, gays, and "ordinary citizens" called for an open meeting with the Skinheads. The summit took place in the community's public access cable television studio where, live and in living color, they hammered out their differences. Several people who watched the broadcast described it to me. They agreed that all the talk boiled down to the Hell's Angels telling the Skinheads to straighten up, or the bikers would "kick their asses from here to Chinatown."

This was California. Where else would Hell's Angels side with gays and anarchists against Skinheads live on community cable television?

Silverton

Tom Galbraith told me about it as he fiddled with the ancient exposed wir-

ing that ran across the ceiling. I had just finished the 55-mile ride from Durango to Silverton, Colorado, and, after pulling the two 11,000-foot mountain passes that separate the two towns, I was ready to slump on the couch and listen to this longtime Silverton resident.

"This town's in trouble, that's for sure," he said. "The mine's closed and near 250 people have been put out of work." Tom had managed the Teller House, a century-old hotel on Main Street, for several years. Just a month earlier, Silverton's Standard Metals gold mine had closed its doors after more than a year in the shadow of bankruptcy. "That was the last productive mine around here; now that it is gone, mining is dead in Silverton," the wiry, white-haired man continued.

He descended the stepladder and flipped the wall switch, filling the room with light. "Sometimes I wonder why this place doesn't just burn down, all the wiring being as old as it is," he said. "But I figure we'll make it through another night OK." Since I was staying the night in the room the hotel had set aside as an American Youth Hostel, I prayed he was right.

Across the street from Teller House, George Chapman, publisher of the *Silverton Standard and The Miner*, Silverton's oldest and only newspaper, gave me details surrounding the mine shutdown. George is a transplanted New Yorker tired of hectic city life, who about a dozen years ago bought the paper, opting for the easygoing lifestyle and sense of community Silverton offered.

"About 25 years ago some know-nothing back East bought Standard Metal and the gold mine along with it," he told me. "The industry was stronger then, and the operation here did all right even though the management was poor. About 10 years ago, though, another firm made a hostile takeover bid. The dumbbell who owned Standard Metal fought off the bid by buying a bunch of worthless mining operations."

Chapman paused as a customer entered the store. He sold 20 plain white price tags to the man, who owns the carpet store down the street, and rang up the 40 cent sale. "He was so weighed down with debt by these gyrations that he practically had to rape the Silverton mine just to stay alive. For years they have been taking ore out of that mine without putting new equipment or maintenance back into it. So I'm not surprised it has come to this. The last working mine in this

area is gone, and the town is going to suffer."

If the closing of the gold mine does mean the end of mining here, it will mark the end of another chapter in the long history of the San Juan Mountains of Colorado. In the 1300s the Ute Indians were forced into the San Juans by fierce Plains tribes. They lived here in peace for over 500 years, undisturbed except by a few hardy travelers who, like Franciscan father Juan Riviera, wandered through these mountains in search of an alternate route to California.

That tranquillity came to an end with the prospecting rush of 1863. Prospectors in search of gold flooded into the area, disrupting forever the Ute's way of life. Behind the miners came the settlers who demanded "pacification" of the Ute, which was accomplished by the United States Army. By 1881, a roadside historical marker informed me, the people who had occupied these mountains for more than 500 years were "moved to less desirable land in Utah." Since then, more than \$735 million worth of gold, silver, lead, and zinc has been shipped from here. The mountainsides are pocked by more than 10,000 abandoned mines.

Chapman told me about a recent public meeting, sponsored by the Chamber of Commerce, on the question of Silverton's future. The citizens decided that the town needed an economic development group and a full-time promotional person. Anxious to attract tourists, Wiley Carmack rose to suggest that signs at the end of town should be a top-priority item. All present thought this a good idea, and Wiley was promptly made chairman of the Sign Committee.

The goal is to attract some of the money gushing into the San Juans from the spigot of tourism. All along the Million Dollar Highway which stretches north from Durango (along part of which I had just ridden), through Silverton and on to Montrose, ski resorts and condominiums are springing up. With the closure of the mine, Silverton will have to depend on those dollars for its survival.

I paid Chapman 25 cents for a copy of the *Standard and Miner* and strolled down the street to Silverton's most popular saloon. Daily life goes on in this small mountain village as people wait for the full impact of the mine closing. The *Standard and Miner's* "Sheriff's Blotter" recorded the following: Mateo Loya was arrested for driving while under the influence

after he made a right turn into a signpost at the Prospector Motel. Clayton Hadden was issued a summons for having a dog at large; authorities found the dog on the courthouse steps. Ben Massey found an undisclosed amount of cash on Blair Street; it may be his in 30 days. The paper also reported that Standard Metals general manager Greg Sparks is "still

"The last working mine is gone," the publisher of the Silverton, Colorado, newspaper told me, "and the town is going to suffer."

optimistic about obtaining a financial arrangement that will allow the company to continue operating."

When I lay down in my bunk at Teller House, I imagined future *Standard and Miner* headlines: "Upstate New Yorker Perishes in Teller House Blaze" and "Faulty Wiring Blamed in Electrocution of Bike Tourist." I slept fitfully that night, either because of the altitude (9,300 feet) or because of my concern about fire safety. I got up early the next morning and, after a hearty breakfast at the Pickle Barrel, pedaled north toward the summit of Red Mountain Pass.

The temperature was 36 degrees and icy drizzle soon soaked my clothing beneath my poncho. Worse, the air grew steadily colder as I climbed. The rain gave way to sleet, and the sleet to snow. When I reached the 11,000-foot marker the clouds broke, revealing an intense azure sky. The last thousand vertical feet were particularly difficult. My strength was sapped by a combination of thin air, an unending series of switchbacks, and a bitterly cold headwind. Twelve thousand feet above sea level I reached the summit—the first place in 30 miles where the road becomes level and then descends. I leaned my bike

against a historical marker, brushed snow off a flat rock, and sat down to recover from the climb.

Silverton reminded me of a man with one foot in the grave and the other on a banana peel. The mining industry has been badly shaken by poor management and changes in the national and international economies. While Standard Metals is pulled into the grave, the town struggles to keep its balance on the banana peel of tourism. The rallying cry of some who oppose these changes is "Don't Californicate Colorado."

As an outsider, it is easy for me to decry the destruction of old ways of life and the influx of big-time outside money and the service economy. For people like Wiley Carmack, who must put food on the table and clothes on his kids' backs, however, these changes are necessary for survival. If the San Juans are Californicated, condominiumized, tourist-attractionized, and recreationalized while productive mines lie idle, years from now perhaps someone will conclude that the miners, like the Ute, were driven from this land by a fiercer tribe, the Corporate Investors.

The cold wind howled as I mounted my bike and prepared for the twisting descent into Ouray. I looked back toward Silverton, but it was concealed by the bank of clouds below me.

Heartland

The Mississippi was broad and muddy brown as it flowed past Hannibal, Missouri—just as Mark Twain said it would be. I was excited about crossing the Mississippi, yet I lingered for an afternoon on the western shore. Hannibal was in the midst of Twain mania (Twainia?), celebrating its native son's 150th birthday.

As I rode over the back roads and through the small towns of Missouri, I found vast stretches of black earth lying open ready for seed. I could see no evidence of the farm-belt crisis the media reported. A cartoonist for the *Bloomington (Illinois) Pantagraph* drew Ron and Nancy Reagan peering out the window of Air Force One, as Ron remarks: "That land looks pretty darn *productive* to me." And so it does, from 20,000 feet.

The midday sun beat down on me as I pedaled into Paris, Missouri. I met Chuck Herron, tan and muscular owner of the Dx service station at the south end of town, when I stopped there to rest. Business was so slow, this native of nearby Moberly had

time to sit and talk over farmers' problems.

"The number-one problem farmers face is credit," he told me. "It's the high interest rates that are killing 'em; it hurts me too, because when farmers can't pay their bills, I can't pay mine."

I asked if he thought the government should expand its agricultural aid programs. "Hell, no," he responded. "As far as I'm concerned, Washington is half the problem. A lot of those programs keep bad farmers on the land. What I'd like to see," he continued, "is for Reagan to take that \$14 billion (*sic*) he wants to spend down in Central America and use it for low-interest loans for the average farmer. Farmers don't need a hand-out, just an even break."

Even breaks have been in short supply around here since the early 1980s. The land boom of the '70s, fueled by visions of expanding international markets, busted in 1981 when a global recession, a stronger dollar, high interest rates, and the repercussions of the Soviet grain embargo combined to weaken the American farmer's grip on the international market. Since then, farm debt has risen dramatically while earnings have fallen. In 1985 a farm worth \$500,000 will earn an average of \$10,000. That's far less than the money would draw if put in a bank. Though local bankers are frequently targets of criticism, many farm banks are in trouble as well. This year the FDC included twice as many farm banks on its problem bank list as it did last year.

The sun cast long shadows to the east when I started across the narrow, two-lane, steel-frame bridge at Hannibal. Avoiding the heavy traffic and numerous potholes, I made my way safely to the eastern shore and started northeast across Illinois.

The people of the rural, agrarian Midwest remain easygoing and friendly, as I learned one Sunday in Virginia, Illinois. After a restful night's sleep in the backyard of the Presbyterian church in nearby Jacksonville, I splurged on breakfast in a local diner. Wearing my funny tight black riding shorts, with my heavily laden bike parked outside, I served as a diversion for the regulars there. An hour's ride later, I entered the village of Virginia, where I heard bells ringing. The source was a Methodist church. Curious, I went inside.

Imagine my surprise when the young, blue-eyed, black-bearded minister in this traditionally Republican

area gripped the pulpit, offered a riveting denunciation of U.S. support for the Nicaraguan *contras*, and zealously defended the Sandinista revolution as a just response to decades of U.S.-sponsored tyranny under Somoza. This young firebrand had just returned from a fact-finding mission in Nicaragua. While he was there, the Reagan administration imposed

*"When the farmers can't
pay their bills," said the
Dx service station owner
in Paris, Missouri,
"I can't pay mine."*

economic sanctions against Nicaragua, and his group had had to arrange alternative transportation home.

He recounted a conversation with a poor Nicaraguan farmer who told him that he loved the revolution because "the revolution gave me land, and now that I have land, I have self-respect." The church, filled with farmers, was hushed when he finished.

After the prayers, sermon, and hymns, the man next to me invited me to Sunday dinner. He was Max Fix, a lifelong bachelor who had retired from his job as cashier at the Soy Capital Bank and Trust Co. His guests included his brother and sister-in-law Jim and Kate Fix, who have worked a 2,000-acre corn and soybean farm for the past 35 years, and longtime family friends Farrel and Marjorie McGinnis (he's a retired high school principal).

The food was fantastic. Roast beef, baked potatoes, creamed asparagus, and corn on the cob dripping with butter graced my plate—a welcome change after weeks of peanut butter and jelly sandwiches. Farrel, as oldest male, sat at the head of the table and directed the conversation, which soon turned to the minister's travels and the morning's sermon.

I braced myself for a fire-and-

brimstone lecture on the evils of world communism. It never came. Instead, my dinner companions remarked how glad they were that the minister had returned safely. He hadn't changed any of the minds in this room, but neither had he alienated them. After two helpings of dessert, and after-dinner tea and conversation, I pedaled out the driveway.

My original plans had called for a southern route through the Ozarks of Missouri and then east to Kentucky. But back in Missouri a few days of fighting a powerful south wind had convinced me to change my plans. I would much rather ride with a tailwind than a headwind, and the Windy City had always intrigued me, so I turned north and headed for Chicago.

My wheels rolled across the city line on a muggy May afternoon. As far as I could tell, I had stumbled into a bumper-car arcade. Suddenly, the days of peaceful pedaling that had brought me across Missouri and rural Illinois seemed to belong to the distant past. Buses exhaled voluminous clouds of thick black diesel smoke, drivers delivered hails of curses, and the street provided plenty of potholes. Covered with grimy city sweat, I knew why I had been shunning large cities.

And then it happened. In the distance a beautiful light-blue form rested comfortably on a street corner, a beacon of hope and comfort. As I drew closer, the gothic script came into focus: *The New York Times*. This was food to a starving man. I parked my bicycle, dug two quarters from my change purse, and carefully dropped them into the slot. Paper in hand, I slumped onto a patch of grass outside the Gucci shop. The impeccably dressed Gucci guard couldn't dampen my spirits even when he politely requested that I remove my grimy body from the grounds.

As I left Chicago late that afternoon, Carl Sandburg's poem "Windy City" came to mind:

Early the red men gave a name to a river,
the place of the skunk,
The river of the wild onion smell.
Shee-caw-go.

Out of the payday songs of steam shovels,
Out of the wages of structural iron rivets,
The living lighted skyscrapers tell it now
as a name,
Tell it across miles of sea blue water, gray
blue land:
I am Chicago, I am a name given out by
the breaths of
working men, laughing men, a child, a
belonging.

Back East

By the time I rolled into Boston on Memorial Day, my pale pink winter skin had bronzed and my legs were set like concrete. I appreciated my apartment's free-flowing hot water and convenient toilet facilities for the wonders they really are. After an evening recounting my adventures to my housemates and a good night's sleep in my own bed, I rose at dawn and got on my bike, just as I had for the past six weeks. This time, however, I rode west to Massachusetts General Hospital, where I began my core clerkship in surgery with a three-week stint on the emergency ward.

During my travels, I had never thought of myself as a future physician. I was simply Bill Thomas, the kid from Nichols, New York, seeing the country for the first time. Once people found I was a ready listener, the subject of what I did for a living rarely came up. The scores of people who had opened up their homes to me, offered me meals, and talked to me about their everyday lives and problems had taught me that being Bill Thomas was and should always be more important than being Dr. Thomas.

Now my holiday was over, and I had to resume the task of learning how to act like the kind of doctor I want to be. At first I thought the contrast between my carefree life on the road and the often grueling pace on the West surgical service would be sharp and hard to bear. In fact, the two experiences had much in common.

With the help of my bicycle, I had gone to the world. In the minor surgery room, the world came to me: carpenters, bums, hairdressers, and homemakers streamed into the emergency ward seeking medical attention. The art of ordinary conversation I had sharpened on front porches and barstools served me well in the emergency ward. Before my trip I had firmly believed that the art of medicine was beyond the range of ordinary experience, a set of special skills with fancy names like observation, inspection, and interaction. When I returned I found that the art of medicine is drawn from the everyday experiences of curiosity, compassion, and conversation, built up from the ordinary skills of asking and listening. □

BENCH MARKS

The Neurite Stuff

by Lisa Derman



It's common knowledge that peripheral nerves will regenerate when damaged, but central nervous system fibers will not. Biochemist William Matthew has adopted the long-term clinical goal of enabling the central nervous system to recover from injury. In the course of his research, he has developed an innovative technique to make monoclonal antibodies to substances that don't ordinarily generate antibodies—a technique that may yield clinical and research benefits far beyond the nervous system.

When a nerve is cut or crushed, the neurites, or axons, below (distal to) the cut degenerate. In peripheral nerves, the live neurites above (proximal to) the cut can then grow back into the nerve sheath to the tissues originally served by the nerve. Even central nervous system neurons are able to regrow neurites if they are provided with a graft of peripheral nerve sheath.

Matthew is studying "which proteins in the peripheral nerve sheath provide cues for neurite regeneration."

"Somehow the neurite is able to grow along, tasting the environment and figuring out where it's going," says Matthew, assistant professor of neurobiology. "We want to know which proteins in the peripheral nerve sheath provide cues for neurite regeneration."

To locate these protein molecules, Matthew and colleagues make monoclonal antibodies to peripheral nerve tissue and then test to see which ones block neurite growth. If an antibody blocks growth, its antigen may very well be a neurite growth promoter.

The test takes place *in vitro*. Matthew and M.D.-Ph.D. student Al Sandrock dry sections of frozen peripheral nerve tissue onto cover slips and incubate them with single monoclonal antibodies. They then place living ganglions (collections of neurons) on top of the frozen sections and observe whether they grow neurites.

When the tests showed that conventionally produced monoclonal antibodies don't block neurite growth, Matthew tried a novel approach to make some that do. He needed to overcome strong immune system biases that encourage the manufacture of antibodies to just a few "immunodominant" antigens, while suppressing production of antibodies to other antigens—generally those the body recognizes as "self."

Normally, scientists make monoclonal antibodies by immunizing a mouse with the tissue of interest (in this case, nerve tissue); fusing its spleen cells with myeloma cells, so they will grow permanently in culture; then cloning those spleen cells, each of which manufactures one antibody. The process yields many antibodies to a few antigens, few antibodies to others, and none at all to still others.

To overcome the immune system bias, Matthew developed two new double-immunization techniques. In

When conventionally produced monoclonal antibodies didn't block neurite growth, Matthew tried a novel approach to make some that do.

the first, after immunizing a mouse with peripheral nerve tissue, he treats it with the immunosuppressant drug cyclophosphamide, then reimmunizes it with the same tissue.

The technique has two effects. It minimizes the immune response to immunodominant molecules—those to which the animal ordinarily generates antibodies. It also permits antibodies to form against other antigens

that otherwise would induce no immune response.

Because of these properties, the technique will probably prove useful in other forms of research—for example, in locating, staining, and studying macromolecules that are highly conserved (similar in all species), to which antibodies do not readily form.

Four antibodies Matthew and Sandrock created with this new technique block neurite growth *in vitro*.

"It's nice to show an effect in a culture dish," Matthew says, "but it's important to make your arguments that these molecules play this role *in vivo*." In a preliminary set of experiments, he's now using these antibodies to try to inhibit peripheral nerve regeneration in the rat.

Matthew's next tasks are to purify the neurite growth promoters, identify them biochemically, and learn when and how they are expressed. So far, he and colleagues have found that cutting or crushing an adult peripheral nerve induces it to produce at least one of the growth promoters.

Matthew's second double-immunization technique exploits monoclonal antibodies to compare two tissues on an extremely detailed level. He immunizes a mouse with one tissue and treats it with cyclophosphamide, repeating both steps until the mouse no longer generates antibodies to that tissue. He then immunizes the mouse with a different tissue—and the mouse produces antibodies only to those molecules that are unique to the second tissue.

This technique has as-yet untried clinical potential. For example, scientists could use it to search for subtle chemical differences in the brain tissue of patients with neural diseases—such as psychiatric disorders. The resulting antibodies might reveal unexpected substances unique to schizophrenia, for example.

Matthew and colleagues have used the technique to extend their search for neurite growth promoters to another environment in which neurites grow: the embryonic central nervous system. By suppressing the response to adult spinal cord and then immunizing with embryonic cord, they have found molecules that appear in the central nervous system during development—while neurites are forming—but not in the adult system.

Some of the antigens unique to the embryonic central nervous sys-

tem are located in regions where rapid neurite growth occurs. Joseph Madsen '80, a neurosurgery resident at Massachusetts General Hospital who is doing research in Matthew's lab, has discovered that these same antigens appear for a short time in the adult central nervous system immediately after it has been injured. These molecules may also be neurite growth promoters; if so, Madsen hopes to find treatments that prolong their expression.

Matthew uses monoclonal antibodies to compare adult and developing central nervous system tissues on an extremely detailed level.

Antibodies to neurite growth promoters may also prove useful. It's difficult to test whether or how well drugs encourage the central nervous system to recover from injury. Antibodies could be used to stain sprouting neurites; the stain would allow researchers to measure neurological recovery with and without the drug, and help them detect small amounts of neurite sprouting they might otherwise miss.

Matthew cautions that he and his coworkers are a long way from cures for paralysis. Even if the neurite growth promoters were already identified biochemically and histologically, he says, "the problem is going to be how to make use of them. The patterns of neurons and neurites in the central nervous system is incredibly complex. It's easy to imagine that you could inject these molecules into damaged central nervous system tissues, and neurites would grow. Even so, you can't have undirected growth. The central nervous system needs connectivity at a much finer, more sophisticated level."

Matthew anticipates the need to collaborate with a molecular biologist to attain that level of control. "We will need to learn how to control these molecules' expression, and how to genetically insert them into the appropriate places," he says. □

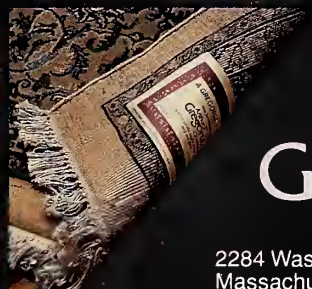


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MOTHERS AND FATHERS OF INVENTION

From pregnant residents to faculty parents, a new social order is challenging the system

by Maureen Sayres



I squirmed at the next question in my medical internship interview. It was the late '70s and this was my first-choice hospital. "What are your childbearing plans? I assume there are none for the residency years?"

I paused before answering. This type of question was not being asked of the male applicants, but I knew that many program directors did not want that fact drawn to their attention. "I don't know," I mumbled, and quickly went on to talk about the research I had done the previous year. An odd feeling came over me as I left the interview. I was sure I wanted a family at some point, but clearly my interviewer was not ready to hear that. I felt I had to hide that part of myself; in those days we were all still waiting to see how many women would be allowed to begin a particular Harvard residency that year.

Begin I did, at that hospital, and honestly, although I was 27, the last thing on my mind for the next few years was starting a family. I was caught up in learning how to carry out the great responsibility of primary patient care—in being up all night in the ICU, making rounds and presentations, constructing flow charts, and doing fever workups. It was a dizzying process from which I emerged only years later as a second-year psychiatry resident in the same hospital. By then, the residency programs in our hospital had had a high percentage of women for three years, and the hospital had become quite adjusted to them—until they became even more uniquely womanly: in one

year several residents in the hospital became pregnant.

"What an irresponsible thing to do during internship," said some residents and faculty. Others of us were happy for the women, but we immediately became concerned about the extra work that might be required of us in a job that already took too many hours and was hard on our outside lives. As it turned out, because one of the women had a complicated pregnancy, cross-coverage began quite early in the year. Throughout that year, the targets of people's frustrations about the extra work were often the pregnant residents themselves, who, as often as not, were making sure to do double duty before they left so as not to burden others.

What a needless crisis, I thought to myself, for something so natural and foreseeable as pregnancy to create such hostility. I wondered whether this problem was unique to my hospital or my specialty. I wondered how they were managing in surgery or ob-gyn, which are even more demanding. The sociological change represented by large numbers of women entering medicine was upon us. How were educational institutions planning to accommodate this phenomenon? Were the responsibilities of medicine and family inherently incompatible?

I became intrigued enough to plan a study of pregnancies occurring over the past 10 years in all the Harvard residency programs. During the months I was planning the study, I received a referral in my capacity as a consultation liaison psychiatrist in ob-gyn. It started with a phone call from a respected department chair-

man at one of the Harvard services. "Can you give one of my residents some help?" he asked. "She's having a postpartum depression."

What a terrible time for such a condition, I thought to myself, and quickly set up an appointment to see the resident. She came to the office looking weary and forlorn, and unfolded her story. She was 30 years old and in the final year of a lengthy pediatric surgical subspecialty residency. She and her husband had been trying to conceive for many years. An infertility problem had been diagnosed, and surgery had been advised. Because she felt the surgery might interfere with her training program, she had elected to postpone it.

As luck would have it, however, she became pregnant during the last year of her residency. She was delighted and made arrangements with the department for a vacation and elective period of five weeks that would serve as her maternity leave later that year. The pregnancy had gone well, and she had put in double duty before her delivery, thereby making up all missed call. The baby was healthy, and the resident had an uncomplicated postpartum period. When she returned to work, however, she was greeted with the news that one of the other residents had quit. For the next nine months, her weekly work schedule increased from the usual 100 hours to 118 hours (there are 168 hours in a week). She complied with the new schedule, but found she was constantly physically fatigued with the combined load; she also saw little of her husband and almost nothing of her newborn son.

After two months, she approached her training director, who told her she was expected to "carry her weight." It was then that he called me. My examination of the resident turned up no evidence of postpartum depression. The rigidity of medical training had become so entrenched that a normal physical and psychological response to such a workload after giving birth was viewed as a pathologic psychiatric condition. It struck me that residency training was faced with serious structural problems that deserved attention—problems arising from a major sociological change in a system already set in its ways.

In order to carry out my study of the pregnancies during residency training at HMS during the past 10 years, I enlisted the support of several HMS faculty administrators, including Dan Tosteson, Mitchell Spellman, Don Medearis, Dan Federman, Grace Wyshak, Roberta Apfel, and Eleanor Shore. The then acting director of the Office of Academic Careers, Geraldine Denterlein, joined me. She had recently traveled around the country showing videotapes (now available for viewing in Countway Library) that depicted the careers of HMS's female full professors. The question she was asked most often by students in high schools and colleges was, "Is it possible to be a physician or a professor and also have a family?"

At HMS, as at many other medical schools in the country, progress up the academic ladder at the higher levels had been much slower for women than men, particularly M.D.s (although also true for Ph.D.s), even though adequate pools of qualified women physicians and scientists had been present in some departments for years. With these facts in mind, we set out to discover whether medicine was asking too much of its physicians and scientists, and whether there was anything that could be done at HMS to facilitate parenting while maintaining professional standards.

We sent questionnaires to all 64 women who had been pregnant during residency at HMS-affiliated hospitals between 1973 and 1983. We also contacted 66 of the residency program directors. The response rates of both groups were strikingly high: 88 percent and 95 percent, respectively. We surveyed our controls, a randomly selected group of male and

non-pregnant female Harvard 1983 residents, for attitudes about pregnancy during residency. Our findings were published in the February 13, 1986, *New England Journal of Medicine* (volume 314, p. 418).

We found that pregnancy was a common event among women residents, and it was becoming more frequent each year (currently about one in eight married women residents carries a pregnancy to term each year). Although during my residency my pregnant peers had said that their pregnancies were unplanned, 77 percent of the pregnancies in our study were planned. (Perhaps my peers had found it difficult to admit that they had chosen to become pregnant because of the climate of residency programs at the time.)

Many more of the male residents (44 percent) than female residents (31 percent) were married. The mean work week for both men and women was 95 hours. No one quit her program because of pregnancy; if anything, the women fulfilled their work responsibilities at the expense of time

at home. They often did double duty early in the pregnancy, worked up until the time of delivery (one woman refused to go home even though she had true premature labor), and took very short leaves postpartum. Ninety percent of these women had no problems meeting the criteria for board certification.

Our study found evidence of the resentment and hostility toward pregnant residents that I had observed during my training. Two-thirds of the women we studied felt that their pregnancies had generated resentment in those around them, although some also said that they had received encouragement from both the faculty and their colleagues. Because the residency programs had no formal mechanism for handling these pregnancies, they were experienced as disruptions that created considerable stress for all involved.

Four-fifths of the programs had no maternity policy and none had a paternity policy. The range of unpaid leaves after the birth of the baby was zero to 36 weeks, with a mean and



PHOTO BY JERRY BERNDT

median of eight weeks. Several women were given no paid or unpaid maternity leave. The variability was equally enormous within a given hospital. One year, in one hospital, an ob-gyn resident received no leave, whereas a pathology resident in the same year received 14 weeks of paid leave.

We were able to identify certain measures that program directors, the pregnant residents themselves, and their institutions could take to incorporate pregnancy into the system. We also concluded that the issues generated by pregnancy were symptoms of a broader problem. Any unplanned event that led to the absence of a resident—an illness, a skiing accident, a family death—produced pandemonium in residency programs. Clearly, not enough flexibility was scheduled into residencies, and their rigidity has had adverse effects on both men and women.

In 1984, we distributed the results of our study to the HMS Faculty Council and Council of Department Heads in an effort to correct factors that could be modified easily. We also proposed looking into structural changes in residency programs that would allow accommodation of “human” events. The most dramatic step taken at HMS was the establishment of an Office for Parenting in late 1984 within the Office of Academic Careers in Building A. Most of the respondents in our study had felt it would be helpful to have a central office to which questions about parenting could be directed.

The momentum for addressing parenting concerns quickly spread from residents to include faculty and fellows. Male M.D.s and Ph.D.s expressed as much interest in our office as females. In its first year, the office served about 600 HMS families and 50 residency and fellowship program directors. One example of the office's services is the distribution of *Parenting Resources 1986*, a booklet which lists sources ranging from in-home child care (with some assessment of the quality of day-care agencies), to museum exhibitions in the Boston area designed specifically for children, to an outdoor reservation for the family.

The office also formed networks of faculty organized by neighborhood and by hospital that include 120 families in the HMS community willing to help others with child-care questions. When a new family moves into town or a resident has a baby, they can now draw on the parenting experiences of other physicians and sci-

entists in the neighborhood. The office also answers miscellaneous requests from individual faculty or program advisers which may involve, for example, an informal matching of part-time persons to share residency and staff positions, or an exchange of information among radiology training directors about the safest rotations for pregnant radiologists. One physician-in-chief recently called the office asking for advice about how best to plan for an upcoming year in which 75 percent of his interns will be women, some expecting a child within a few months of their arrival.

I have attended several national medical meetings at which representatives from other institutions have discussed similar problems of physician parenting. Although we have a long way to go, Harvard seems currently to be in a position of national leadership regarding parenting issues. In addition to the Office for Parenting, HMS has a guideline recommending that faculty paid by the medical school receive 13 weeks paid maternity leave. The university has set up a flexible spending program that should save many families several thousands of dollars a year in day-care costs. There are now two day-care centers in the medical area—a result, in part, of the efforts of the Joint Committee on the Status of Women and David Bray, dean for management and administration. Several residency programs have hired extra half-time residents to build more flexibility into their programs. Finally, Harvard is now looking into a short-term disability policy for its employees that, if passed, would pay salary for maternity leaves as well as for short-term illnesses and injuries.

The formation of the Office for Parenting has struck a responsive chord in the community at large. President Bok and his Interim Advisory Committee on Women have expressed an interest in learning from the experience of the Office for Parenting, and in using it as a model for developing similar support in other Harvard graduate schools.

In 1984, the Office for Parenting received national exposure when, along with other interested groups, it was asked to submit testimony to the House Select Committee on Children, Youth, and Families. The United States lags far behind 75 other developed countries in the development of policies to support parents who work. In France, for example, the law requires employers to provide a generous paid maternity leave (the

minimum is about 16 weeks), a paternity leave (four weeks), and a sick-child leave. In addition, on-site child care is highly developed, and is more often provided by the employer than in this country. In contrast, our federal law (the Federal Pregnancy Discrimination Act of 1978) does not guarantee any maternity or paternity leave or pay; it states only that if a disability policy exists for any short-term illness, then pregnancy must be treated equally in terms of the amount of leave and the pay granted. Thus, with pregnancy considered a disability, a woman must be paid for a period of time determined by an individual obstetrician—usually four to 10 weeks. Massachusetts state law requires that employers provide eight weeks of leave; it includes no reference to pay beyond federal guidelines.

After we and other groups testified to the Select Committee on the support we offered parents, two acts were introduced into Congress. If passed, the Parental and Disability Leave Act of 1985 (H.R. 2020), introduced by Congresswoman Patricia Schroeder, would attempt to bring policies regarding parenting in the U.S. in line with those in other countries by promoting leaves of absence for such reasons as maternity, paternity, and the care of sick children. The other bill, the Child Care Opportunities for Families Act of 1985, introduced by Congressman George Miller, would introduce standards of quality for day care and methods to monitor those standards. These bills are currently in committee.

One of the highlights of the Office for Parenting's work has been its collaboration with the Joint Committee on the Status of Women to sponsor a day-long conference, held this past fall, titled “Parenting in the Harvard Community: Is the Price too High?” It was attended by faculty and trainees and their families, and by 20 hospital administrators. There was a warm feeling in Vanderbilt Hall that day; those who attended met the children of many of their co-workers. After Dean Tosteson's opening remarks, we heard a number of speakers. Adaptations of two of the talks—from cell biologist Dan Goodenough and psychiatrist Roberta Apfel—are reprinted elsewhere in this issue.

When I looked up in 1985 from the midst of all this activity, the time had become right for my husband and me to think about having our

first child. When we decided to begin trying to conceive, I was hit by the evidence of the comparative fertility decline among women in their 30s that was provided by friends who were struggling with prolonged infertility—and by the knowledge that both fetal abnormalities and first-trimester spontaneous abortions are more common in “older” women. Now an obstetrician tells me that from a physical standpoint, the best time to have had my family was in my 20s.

The startling reality is that I began my pregnancy within two months of five other women physicians, and at this point, all the others have lost their pregnancies. This small but personal sample made me wonder if this generation of women—those who waited to have children while helping change society and its institutions—will pay too high a price for its efforts. Clearly, the older we get, the higher the biological stakes.

The little I know about mothering so far has revealed it to be a joyful but wildly unpredictable endeavor. I am amazed by the contrast between the rigid, controlled environment of residency and the lyrical miracle of a new life. Now, in my final trimester, I have begun to try to plan for a maternity leave with the hope that I will need it. Ironically, as I plan, I find myself with problems similar to those of the women in my study. As a psychotherapist, I wonder about the wisdom of discontinuing patient care for more than a few months. Also, I don't know how we could afford unpaid leave while paying off our medical school debts.

These kinds of conflicts will most likely mark this transitional time in our history, as both men and women struggle to balance their professional lives with their home and child-rearing responsibilities. We are going to need all the help we can get from our na-

tional policies and institutions.

On the other hand, I hear the voice of Dr. Spock in *Dr. Spock's Baby and Child Care* saying: “Every time you pick your baby up—even if you do it a bit awkwardly at first, every time you change her, bathe her, feed her, smile at her, she's getting a feeling that she belongs to you and that you belong to her. Nobody else in the world, no matter how skillful, can give that to her.” □

Maureen Sayres is director of the HMS Office for Parenting and HMS instructor in psychiatry at Brigham & Women's Hospital. Alumni families in the Boston area wishing to be included on the mailing list of the Office for Parenting can contact that office at 25 Shattuck Street, Boston, MA 02115. Telephone: (617) 732-1133. Some details in this article have been changed to protect confidentiality.

Backstage: The Joint Committee on the Status of Women

As this issue of the *Bulletin* took shape, the Joint Committee on the Status of Women (JCSW) turned up behind the scenes of many of the articles. The study on pregnancy during residency described by Maureen Sayres in these pages was initiated with the support of the JCSW. The committee also supported the creation of the year-old Office for Parenting, which Sayres now directs, and which comes under the auspices of the Office for Academic Careers—created five years ago by the Faculty Council on the recommendation of the JCSW. (Elsewhere in this issue is a piece by Clyde Evans, director of the Office for Academic Careers, on the status of minority faculty at Harvard Medical School.) Last fall's day-long Conference on Parenting, where the pieces in this issue by Roberta Apfel and Dan Goodenough were first delivered, was co-sponsored by the JCSW and the Office for Parenting.

The JCSW was founded in 1973 as the Standing Committee on the Status of Women for Harvard Medical School and Harvard School of Dental Medicine. When Harvard School of Public Health joined a

year later, the committee adopted its current name. The group started with a five-part mandate: to document and continuously evaluate the status of women in the three medical area schools, locate and identify obstacles to the improvement of women's status, recommend changes, review problems, and advise on grievances.

Over the past 13 years, JCSW members—male and female students, staff, and faculty from the three schools—have worked on subcommittees to conduct investigations and make recommendations regarding salary equity, promotion of women through the academic and administrative ranks, and sexual harassment. With programs and conferences—such as the 1985 panel on Science, Gender, and the Research Process; the 1984 Leadership Conference for Women in Medicine, Public Health, and Biomedical Research; and the video series *Women in Medicine* (housed in Countway Library)—the JCSW has fostered the sharing of information and the visibility of women's accomplishments and perspectives.

Since its inception, the JCSW has worked to institute day care in

the medical area. In the spring of 1983, the efforts of the Day Care Subcommittee paid off with the opening of the Harvard Medical Area Children's Center for around two dozen infants and toddlers. While the provision of affordable child care to all medical area families remained a serious challenge, the JCSW decided it was time to address a fuller range of parenting concerns—including attitudes toward pregnancy at the workplace, maternity and paternity leave policies, single parenting, and dual-career parenting.

In October 1984, the JCSW initiated the Parenting Subcommittee, with the goal of systematically bringing to the attention of the entire community concerns about parenting while working in the university. The new committee was formed to support the efforts of the Office for Parenting at HMS, sponsor parenting discussion groups, and sponsor the Conference on Parenting held last October.

Since October, the Parenting Subcommittee has worked on implementing some of the conference recommendations, and hopes to be able to publish the conference proceedings. □

HAVING IT ALL

The Emotional Imperative

by Roberta Apfel



In October, just before Hiroshima Day, I went to Washington, D.C., along with my youngest daughter, Celia, and enough other men, women, and children to make the Ribbon—a 12-mile chain that encircled the Pentagon, the Capitol, and the Lincoln Memorial. The Ribbon asked a simple question: "What do you cherish most in life? What can't you bear to think of being lost forever in a nuclear war?" The answers came in yard-long segments that were joined together,

tens of thousands of panels from all over America and other parts of the world. Each segment was sewed, embroidered, painted, and crafted with care; the answers were varied but repetitive: children, family, friends; loved ones, the sky; picnics, books, trees, Shakespeare, vegetable gardens; children, grandchildren, friends, grandpa; flowers, songs, children.

I noticed that there was no panel in all the Ribbon bearing the name of an institution (other than a church group): no professional organization,

hospital, school, or laboratory. There was no mention of cherishing these places to which we voluntarily dedicate so much of our lives. There were no panels for grant proposals, papers, appointments, experiments, or 120-hour work weeks.

I thought about my topic for the talk from which this piece is adapted: "Is it possible to have both career and family in this academic environment?" and I decided that, not only is it possible, it is imperative to have both. For our souls, for ourselves, and for our futures, we must have families as well as careers in our academic environments, as well as in all other human communities. I don't mean that everyone must have a traditional family of 2.3 children; I mean family in the generic sense: connections, human relations, and personal and collegial friendships, as well as genuine commitment to the next generations—our children, students, residents, trainees, and grandchildren.

In academic settings the past is studied and distilled and new possibilities for the future are created. If any work environment is compatible with families, this one should be. Our earliest academic models were elementary school teachers who combined careers with children. Universities, with their more flexible hours, could be places where people parent more comfortably than in many industries, factories, or offices. Those who want to parent students and their own children often gravitate to such settings.

What of medical schools and



Roberta Apfel and family, left to right: Bennett Simon, Amy Simon, Roberta Apfel, Molly Savitz, Jonathan Simon, Celia Savitz. Missing from photo, Michael Savitz.

teaching hospitals? What of the Harvard medical area as a place for combining career and family? What are the costs of this rich, double life we physician/parents and scientist/parents lead? What are its dual vulnerabilities and rewards? What is needed to make it go?

Parenting has until recently meant mothering. Only in the last decade have women become enough of a presence at HMS to start to set parenting as a priority—ironically so, for this institution is committed to nurturance in the broad sense, to breeding, rearing, tutelage, training, and discipline. How paradoxical and how sad that parenting and careers in the Harvard medical area have—until recently—seemed mutually exclusive.

In 1873, when women sought entrance to Harvard College, Dr. Edward Clark, an overseer at the college, published a book called *Sex and Education, or A Fair Chance for the Girls*. He argued that women could acquire education only at the expense of their reproductive function, and he listed grievous maladies that might result from the strain of a college education: leukorrhea, amenorrhea, dysmenorrhea, chronic ovaritis, prolapsed uterus, hysteria, neuralgia.

At the same time, women physicians (trained in places other than Harvard) were running the New England Hospital, about which historian Virginia Drachman has written so movingly in *Hospital with a Heart*—a place where women took care of women's health problems, a maternity hospital whose survival rates for mothers and infants exceeded those of all the better-known hospitals in the Boston area at the time.

Alice Hamilton, Harvard's first woman professor in any field (see spring 1985 *Bulletin*), was appointed assistant professor in 1919, and she was still at that faculty rank when she retired in 1935. At the time of her appointment, and until 1945, no women were admitted to HMS.

Hamilton's career is a stellar example of the choice made by the few women who entered the ranks of Harvard medicine in the first half of the 20th century. As her biographer, Barbara Sicherman, put it in *Alice Hamilton: A Life in Letters*, "Like other women of her generation, she believed she had to choose between marriage and a career."

Indeed, in 1896, when her cousin became engaged to a female medical student, Hamilton wrote:



I do think it such nonsense Marian's studying medicine. That is the fault of the transition period in which we live. Girls think now that they must all have professions, just because they are free to, not realizing that the proper state of society is one in which a woman is free to choose between an independent life of celibacy or a life given up to childbearing and rearing the coming generation. We will go down the path of degeneration if we lose our mothers and our home-life.

Of course, Hamilton's male contemporaries and colleagues usually didn't choose between career and family. They could have families because their wives coordinated the home and the children.

Twenty years ago another woman and I talked in the women's room at Countway Library about our babies, our pride—but in secret. We felt we had no permission to discuss this major interest and preoccupation openly and publicly in our classrooms, laboratories, or hospital work settings.

We must, as an institution, acknowledge that parenting is valuable and fulfilling. Formally providing for employees who are parents is essential.

In the last few years, with increasing endorsement and sponsorship—such as day care, and now the Office for Parenting—there's been a different atmosphere at the Harvard medical area. We have many more women at all levels, faculty as well as staff and students. I'm particularly proud and pleased that we now have day care here, since I started working on it

when I was pregnant with my oldest son; the MASCO Child Care Center opened just before his graduation from college in 1984.

We now know how important fathers are, and that the male members of this community have and want parenting responsibilities. The importance of children for men has long been recognized but not often discussed. Studies during World War II showed that soldiers who had a child or pregnant spouse at home had fantasies of children that increased their chances of survival, allowed them to better overcome hardships and deprivation, and made them more resourceful in dangerous situations. With increasing cultural permission to make parenting a priority, young fathers, including some members of the Harvard medical community, have taken primary roles as caretakers of their children.

Psychiatrist Kyle Pruett reported a study of primary nurturing fathers and their infants in a recent volume of *The Psychoanalytic Study of the Child*. These infants, whose mothers worked full time while the fathers worked primarily from home, showed confidence and developmental skills beyond their chronological ages. Lively and competent, they didn't show as many anxieties as some infants reared in more traditional patterns. I was intrigued that some of the fathers said they had started to sit down to urinate because it was harder to stand up while holding a baby and easier to monitor a mobile toddler when you sit down to pee than if you

stand up. It's encouraging to think that something as basic as toilet position can shift with primary parenting.

Even under the best of circumstances—with a supportive community and without conflict—parenting is a tough job, perhaps the toughest there is, even harder than internship. Being a parent naturally brings internal conflict about one's own parents, about being a child, and about one's own childlike wishes and needs. It's a full-time, all nights, all weekend responsibility, and it lasts a lifetime.

Working in the Harvard medical area is far from the best circumstance in which to parent. The work setting is high powered, not child oriented, pressured. Hours are long, it's hard to park, and it's far away from where the babies live. Work and children make conflicting demands on one's time and emotions at all stages of child rearing, though the demands vary with the children's ages.

In order to work here and have a young baby, one must delegate child care to someone trustworthy, somebody one can allow one's baby to love. Some parents delegate child care more easily than others, probably depending on their own models for parenting. It took me a while to learn the importance of delegation in raising my children. My model was my mother, who worked full time with my father in his general medical practice. When I conjure up an image of her, she is doing a urinalysis, feeding my brother, making chicken soup, and talking on the telephone, all at the same time.

Electing the option of part-time work and part-time child care, which I did when my children were young, often means postponed career ambitions and the frustration of a fragmented life with only a little bit of everything. Part-time work for conscientious types usually ends up being the equivalent of a full-time job at a regular work setting. Shared residency training has never reached its anticipated popularity because it is still so much work and it takes twice as many years.

Part-time work keeps the parent closer to the child's development, which teaches about human behavior. Parents learn how someone can look happy and healthy one minute and fall apart the next, and how to anticipate and cope with such mood changes. These are useful skills in caring for patients. Child development was the basis of a behavioral science course in which psychiatrists

Malka Notman and Daniel Silverman and I brought children of varying ages—newborns, toddlers, two-year-olds—to the classroom to demonstrate the stages to which people regress when they are sick.

The emotional pull of little babies and toddlers on parents diminishes in the school years. As children get older, however, parents must deal with children's disappointments as well as their own. You can't be in two places at once. When my daughter was six and had just started to read, she paged me at the hospital to tell me she had brought a book home from school that she could read all by herself. A psychiatry resident, I was in the middle of the emergency

How paradoxical and how sad that parenting and careers in the Harvard medical area have—until recently—seemed mutually exclusive.

room, where I had been called to see three patients who had taken drug overdoses. They were all around me on stretchers vomiting, since the ipecac had started to work, and here I was on the telephone with my daughter who recently and poignantly had told me that she had figured out as she learned the alphabet that M.D. stood for "mother died." I couldn't very well say "see you tomorrow." At that moment I decided to hear the story, "A Duck for Keeps," which I will never forget.

There are many times I have had to make those difficult choices, but I have never regretted the times I listened to a child or went to a class play, athletic event, or assembly—and there are many committee meetings and lectures I have regretted attending.

Children like to identify with the work life of their parents, but hospitals and medical schools are not very hospitable for children—nor are some other work settings. I worked at the U.S. Children's Bureau early in my career. One day I brought my children into the office. The staff members, who made government policy for and about the nation's children,

were puzzled by these little creatures. They didn't know quite what to make of real children, in the flesh.

By adolescence, my children could understand where I worked and something about what I did. We could all, parents and children alike, commiserate about writing papers and pass around drafts for editing help.

We learn a lot from our children and we gather from them a vitality and inspiration that can enrich both our work and our personal lives. Not only do children depend on adults, but the older generation depends on the younger one as well.

Ancient Chinese sages taught the necessary balance in nature between yin and yang, female and male. Freud, that maligned father of psychoanalysis, pointed out the essential bisexuality of human beings—that is, the interdependence of the sexes and the stereotypic qualities of each sex that are present within each person. This bisexuality allows men and women to have empathy for each other and for children of both genders.

Freud also made an often quoted, cryptic remark that the definition of maturity was to be found in the capacity to love and to work. In *Themes of Work and Love in Adulthood*, Erik Erikson points out that *zukunftstraechtig*, the German word used to describe the forcefulness of Freud's insight, has been translated into English as "seminal," but says he would translate it as "pregnant with future."

We must move beyond the tentative questions of "Is it possible to have career and family?" to the imperative. We must aim for both love and work in our lives. Love might be seen as the female side, if work is the male. We must not settle for one without the other, for either alone is a distortion and only a partial truth. Love, for most of us, as for the makers of the Ribbon's segments, is what we cherish most in our lives and our dreams for the future generations. □

Roberta Apfel is HMS assistant professor of psychiatry, director of ob-gyn consultation services at Beth Israel Hospital, author of To Do No Harm: DES and the Dilemmas of Modern Medicine, a former chairperson of the Joint Committee on the Status of Women, and the mother and stepmother of five children. This piece is adapted from a talk she gave at an all-day conference on parenting held at HMS in the fall of 1985.

PRIMARY PARENTING

A Scientist Discovers His Children

by Daniel Goodenough



In 1975, when our first child was three, our second child was born. The baby was tangled in her cord, and went into fetal distress. "Call me if the heart rate on the monitor goes below 100," the nurse said, and left the room. I stared at the machine in disbelief: within five minutes the heart rate was below 100. There was an emergency C-section, and everything seemed to work out.

During the next week, my wife had funny fevers while she recovered in the hospital. She was home for only a week when she spiked a fever of 105 and became delirious. I brought her to the hospital, having called a neighbor to come to our house to watch the children, and left her there. During the next eight weeks, she fought the hospital strep infection which had been left inside her, and experienced four simultaneous antibiotics and undiagnosed phlebitis,

leading to multiple emboli in her lungs, heart failure, and a look into the face of death.

For the first week of this nightmare, I spent most of my thinking energy denying that it was happening, and all of my physical energy coping with an infant and a three-year-old. I didn't know how to use a bottle, make formula, or do much of anything. I kept thinking that my wife would get better in a few days, and that I could then go back to work. But she continued to get worse.

One night I let it all in, allowed myself to see what was going on. I felt such terror, not that she was going to die, but that I was going to be alone. I was terrified of being alone and being a parent. Crazy fantasies ran through my head, among them that I would have to put an ad in the *Globe* for a new wife, because mine was going to die. I cried myself to sleep.

At that moment, something happened to me. My priorities flipped around, and what became important to me was my family. I no longer agonized about not going to work, and I settled into my new role. I began to discover my children, to delight in being with them, feeling their little arms around my neck, the soft weight of the little one hanging on my chest in a pack while I made a home. I slept while they slept, woke when they woke, moved into their rhythm with seemingly endless laundry, diapers, cooking, shopping. Everything was focused on them. I became totally synchronized with another human being, as close to selfless as I have ever been.

I remember thinking one night at dinner time, as I was toiling over the stove, holding the baby in her pack, trying not to trip on the three-year-old playing on the floor, as close as I have ever been to total exhaustion: what would I do now if my husband



Carol, Abigail, and Sophie Goodenough

were to come home and he were to expect me to put out for him?

When my wife came home, there was work to be done. We spent hours talking to each other, re-discovering our new selves, for we both had changed. We struggled with our anger, she at the world for doing this to her, and I at her for doing this to me. It was irrational, poignant, and difficult. But we were so glad to be together, to be alive.

The sickness was a terrible catastrophe, but I look upon this time as the most important gift I have ever been given in my development as a human being. I feel that I was allowed to see another dimension of my life, to which I had been blind. I became a parent, part of a pair of people who are joined in the joy of children. □

Goodenough is HMS professor of anatomy. This piece is from last October's Parenting Conference.



JERRY BERNDT

WANTING IT ALL

A Workshop on Student Concerns

by Kathryn Kris, with Carola Eisenberg,
George Fishman, and Arthur Kravitz



We call our workshop "Combining Medicine with Relationships," hoping to respond to student concerns about whether medicine and satisfying personal relationships can co-exist. These worries—which we hear in the Student Affairs Office and the Medical Area Health Service—seem to have increased in recent years, probably in response to the increased numbers of women students and the inevitable lack of role models at a time of rapid cultural change.

The eight weekly lunch-hour meetings—held for the first time in January and February 1984—include group discussions between students and us (the "faculty"), as well as visitor sessions in which young physicians share their experiences in combining career and family. Approximately 15 medical and dental students and their partners participated during each of the last two years; the third year is now underway.

Incidents from workshop sessions and student responses to a questionnaire reveal students' worries and attitudes. When asked why they joined the workshop, students have cited concern about relationships, child rearing, and pregnancy—and, often, their desire to share those concerns.

They seek role models who have achieved a comfortable balance between career and family—a balance they feel was lacking in their own homes, as their mothers' careers were secondary to family. Students fear that balance is lacking in the lives of their teachers, whom they believe, sometimes mistakenly, to be devoted primarily to medicine to the detriment of family life.

Students want to know how others *feel* about making career and family choices, and how couples decide whose needs will hold sway—the wife's, the husband's, or the baby's. They also want information: How do two-career couples manage child rearing? Which specialties allow for more family time?

In the first year, an uncomfortable tension arose between student participants with and without partners. Some single women students had difficulty speaking freely about their worry that their career commitments might interfere with their desirability as wives—until we arranged for two unattached residents, Tom and Ellen, to visit the workshop.

Tom, though still grieving over the loss of his girlfriend, enjoyed his freedom and friendships with male colleagues. He seemed reasonably optimistic that he would be a desirable partner to the right person someday.

Not so Ellen. Though attractive, productive, and appealing, she felt some men were no longer available to her because their career attainments were below hers. She feared that some men might find her threatening because of her career, and that others might be interested in her not for herself but for her financial prospects. When she sought same-gender friendships in the hospital, she turned to nurses because of the scarcity of women residents.

Students in the workshop felt it was "unfair" that Ellen's social situation was more difficult than Tom's and that it contributed to her less comfortable sense of herself as a woman and physician—though they were unsure how much of her difficulty was attributable to her personality and how much to cultural and social circumstances. After her visit, single female students discussed their own sense of being undesirable to their male classmates, and the tension within the group diminished. We have continued to invite unattached visitors to the workshop each year.

Sally, another visitor, was a striking contrast to Ellen. After a previous career, she had entered medicine with energy and enthusiasm, excelled academically, and enjoyed the freedom of being unattached. She soon fell in love with and married Rob, a

fellow physician, and her freedom from conflict continued until they were separated during internship. While away from Rob, she miscarried. Her description of her struggle to continue her internship, physically and emotionally drained, longing for her husband, was painful for us all to hear.

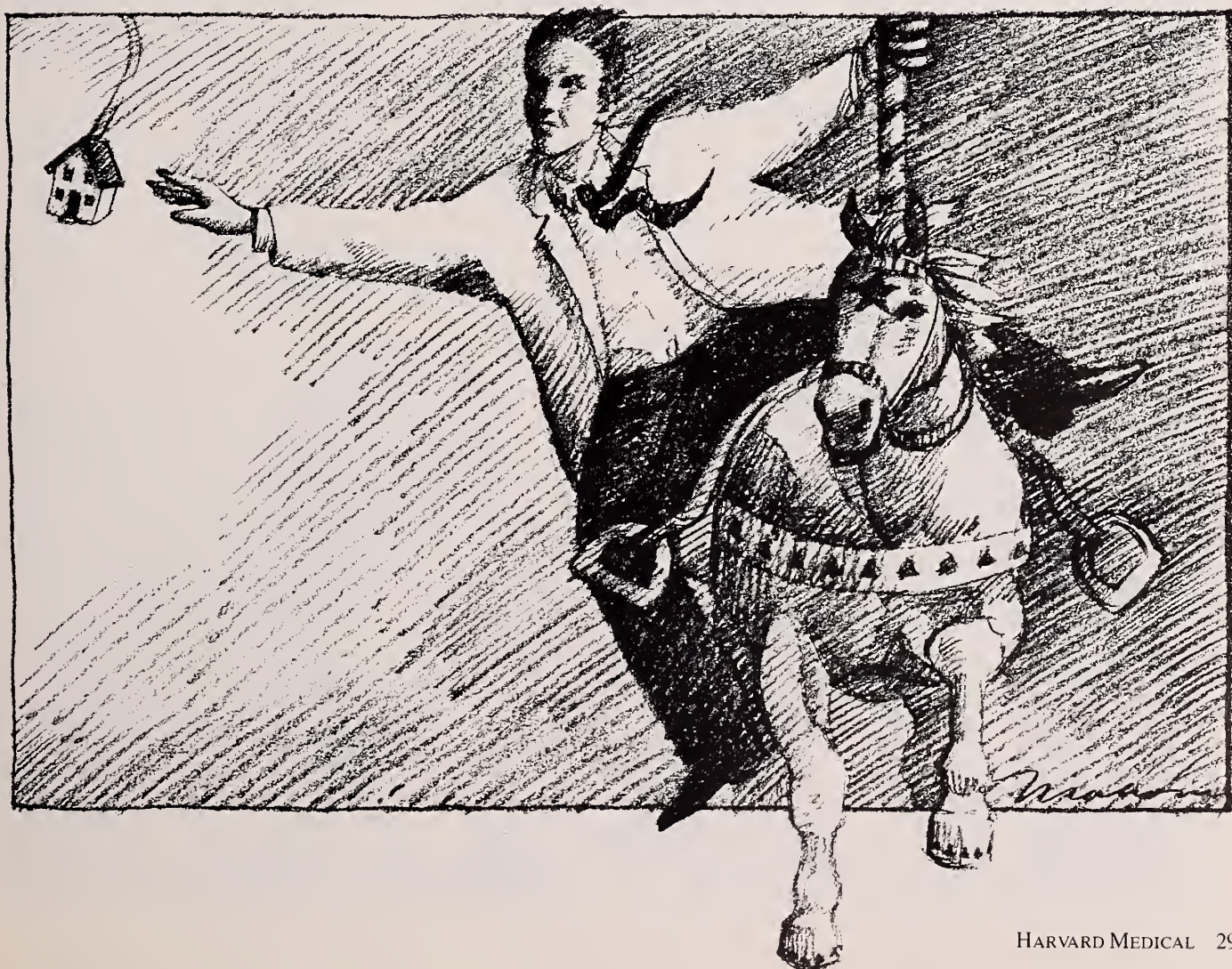
In a subsequent session, students expressed their anger at Sally for having overextended herself. It is not unusual after a visitor session for students to express pain and anger at the intensity of some visitors' conflicts, or impatience with those who describe only what has gone well, though they are always tactful and appreciative to the visitors themselves.

The students have trouble putting the visitors' descriptions of conflict between career and family or personal needs into perspective. Like the visitors, they cannot envisage long-run resolution of these conflicts; they look for solutions that are not readily at hand. Sometimes they turn to us,

asking how we have navigated similar life decisions.

One of these requests came when Margaret, a medical resident and mother, told us how she had spent the previous evening. After a weekend call during which she had slept three hours, she picked her toddler up late from day care, cooked dinner, read to her child before he fell asleep, then fell asleep herself as her husband was telling her of his invitation to give a talk in another city which would necessitate finding a sleep-in baby sitter to care for their child. She came to the workshop guilty and saddened by her inability to respond to her husband, whom she would not see again until the following evening. She spoke of her growing recognition that she would not attempt the academic career she had once thought possible, and her concern about her husband's possible resentment if his advancement was delayed because he deferred his career for hers.

Students seek role models who have achieved a balance between career and family—a balance they feel was lacking in their own homes.



The extraordinary resilience of this devoted young woman and her husband, the priority they both gave their child, their responsiveness to each other, and the intense conflict and pressure omnipresent in their lives moved everyone at the workshop. When the students turned to us, we, the faculty, found ourselves describing how we and our spouses had managed child rearing. Only the women faculty—Kathryn Kris and Carola Eisenberg—had limited their careers during their children's preschool years, and both believed they probably would not do so to the same extent under present-day circumstances. Although initially we had been reluctant to bring in our own life experiences, partly because they occurred in other times and under different circumstances, we discovered that doing so has enhanced student sharing.

All students in the workshop, even those who insist that partners participate equally in decision making, have expressed distaste for mothers who are not especially nurturing of their young children. Some mothers—students and visitors—describe an uncompromising quality to their attachment to their young children which places the children's needs above their own. Only one man, a young faculty member with a baby and a three-year-old, has reported such an attachment.

Several mothers, two of whom are students, said the strength of the pull toward their babies is unexpected, especially when it increases as the specificity of the attachment between parent and child grows in toddlerhood. Margaret spoke at the workshop two years in a row; her conflict between work and family increased as her child grew able to voice his distress at her absence.

Through the workshops, both faculty and students discovered the tremendous variability among individuals, couples, and situations. Not all women feel the pull toward nurturance that Margaret felt for her son and husband, nor experience so much conflict and guilt when unable to care for them. What is possible for one person or couple may be destructive to another.

Are the students who attend the workshops typical of HMS students? Not unexpectedly, woman participants outnumbered men four to one. From responses to the questionnaire distributed at the end of the second year's workshop, we found that participants were older than the average HMS stu-

dent: several were in their late 20s to mid 30s; three out of four did not come to medical school immediately after college. One-fifth were married, of whom two had babies, one had grammar school age children, and one was pregnant. One-fifth were living with a partner. The rest were single, although about half of them had boyfriends or girlfriends. Four-fifths described their fathers and one-half their mothers as professionals; half the women students said they were the first professional women in their families. Half the respondents' mothers had not worked while their children were growing up, but only a rare mother was not working currently.

One-third of the students felt the workshop had influenced their specialty plans, which included family practice, ophthalmology, oral surgery, pediatrics, primary care, and psychiatry. Several students volunteered that, after participating in the workshop, they would not consider a surgical specialty because of its time demands.

All students said the workshop had been responsive to their interests. Three-fourths said it had brought unanticipated benefits, including finding a psychotherapist, making new friends, sharing ideas with a partner, and gaining a more realistic view of parenting. Many recommended more and longer sessions.

Anna Freud, founder of child psychoanalysis, wrote that it is unfortunate that development in our culture requires adolescents to commit themselves simultaneously to love and work. Similarly, it is regrettable but inescapable that both medical training and parenting require uncompromising attachments which, when simultaneous, lead to conflict for many young physicians. At a time of rapid change in medical training and family life, students use these workshops to discover comfortable ways to reconcile these goals. □

Kathryn Kris '59 is psychiatrist to the Medical Area Health Service. Carola Eisenberg is dean of student affairs; George Fishman is director of psychiatric residency training at Beth Israel Hospital; Arthur Kravitz '54 is assistant clinical professor of psychiatry and a member of the Admissions Committee. The names in this piece have been changed to protect confidentiality.

*Students want information:
How do two-career couples
manage child rearing?
Which specialties allow
for more family time?*

DOCTORS IN THE HOUSE

Six medical students who are children of physicians talk with psychiatrist John Mack



For this piece the Bulletin brought together psychiatrist John Mack '55 and six HMS students who are children of physicians.

These students are in a unique position, we thought, both to reflect back on being raised by physician parents and to project forward to their ideas of themselves as physician parents. We were also interested in how their parents had influenced their choice of career.

The following adaptation of that discussion not only yields some answers to our initial questions, but articulates a struggle (described elsewhere in this issue by Kathryn Kris and Maureen Sayres) with the question of how to manage both career and family. These students are coming up against the fundamental differences between our current society and that in which their parents raised families—in a profession, as Maureen Sayres writes, “already set in its ways.”

The names below have been

changed, with the exception of John Mack. Two students, Sam and Laura (both HMS I), are children of physician couples. Four—Michael (HMS I), Elizabeth (HMS II), Henry (HMS II), and Anne (HMS IV)—have physician fathers.

John Mack is a child and adult psychoanalyst and HMS professor of psychiatry at The Cambridge Hospital. He has written numerous articles on psychological reactions to the threat of nuclear war; is the co-author with schoolteacher Holly Hickler of

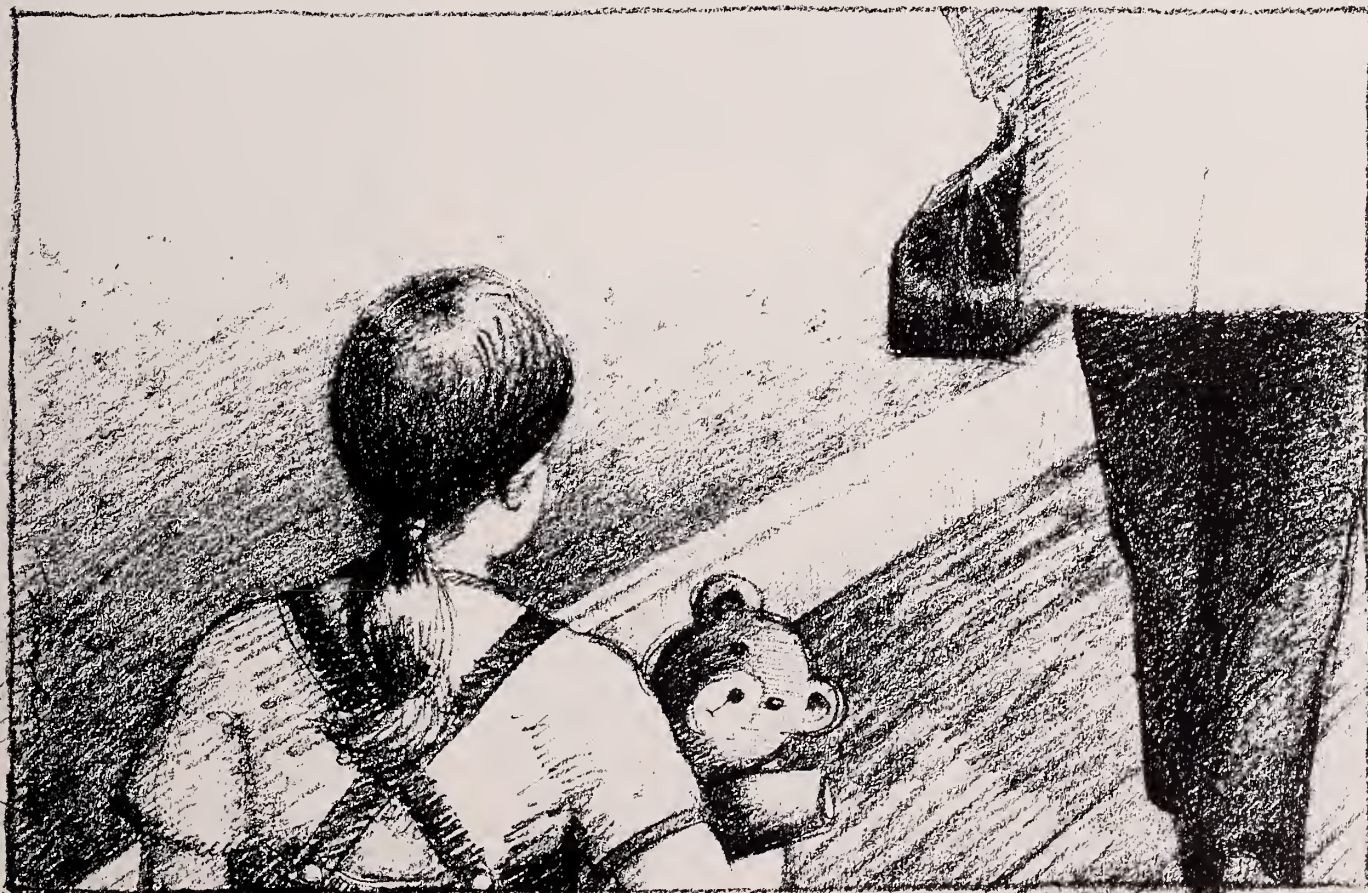


ILLUSTRATION BY KATHERINE MAHONEY

Vivienne: *The Life and Suicide of an Adolescent Girl*, and is the author of the Pulitzer Prize-winning biography *A Prince of Our Disorder: The Life of T.E. Lawrence*.

John Mack: Let's start with how you happened to volunteer for this project. When you heard about this opportunity to talk about what it is to have a physician parent, and to think about parenting in relation to being a doctor, was there an aspect that you responded to particularly?

Henry: I was struck positively by the idea because my father had just been up for a weekend. It was a chance for each of us to experience the other's life and feelings. For him it was a chance to go back and for me it was a chance to think about what it will be like for me years hence.

My father and mother were engaged when he was in medical school. I tried to consider that amount of planning or organization, how he must have felt. There were probably good things and bad about it. I can't imagine myself in that position, in the second year of medical school, engaged to a woman in nursing school, knowing you're going to get married at the end. It would be too predetermined or confining at this point for me.

Sam: I share the same sentiment. My parents met when they were both in medical school. My dad was one year ahead of my mom; he was a teaching assistant in a course she had to take. I

so young. It seems so unreal.

This is kind of funny timing, because today would have been my mother's 54th birthday. She died six months ago. I've been thinking about parenting a lot.

Michael: I guess I reacted because I have some friends who resent their parents who are doctors. I don't want to be that way as a parent, to be in a professional position which tears up my family or causes that kind of resentment. I'm interested in maybe learning something about what could cause that kind of resentment.

J.M.: I can't resist calling on Anne at this point, as she is the only fourth-year student here. Do you see any evolution in the way you look at this question?

Anne: I can't imagine having children, because soon I'll be on call every night for what seems to me an eternity. But I've found as I've gone through medical school that you basically can find time to do whatever you want. I think you have to go into it with that attitude—otherwise, I'd look at the next four years of my life and be depressed, because we really don't have that much time.

Back to the idea of resenting physician parents: I remember my mother telling me so many times, "Whatever you do, don't marry someone in academic medicine" [laughter]—never thinking I might go into it myself. I know I don't want to do some of the same things my father did, and at the same time I can see my career going

Henry and Sam, you may not be doing justice to yourselves with the idea that you're not able to balance personal life with professional life.

Sam: When I was growing up my parents had to contend with me and their medical studies, and I guess they did it—they *did* do it—but I see how times have changed and I don't feel I could do that now.

Laura: What do you mean, times have changed?

Sam: One element is financial. And I think the pressures and the demands are maybe more now. Also, I should point out that my grandparents were a big help. I don't have that kind of a network set up here. I don't think I, on my own, while I was here, could do it. I don't think I could do my kids justice and be the kind of parent I want to be.

J.M.: There's some sense that perhaps the demands on students now are greater than before.

Elizabeth: I think my parents felt when my dad finished medical school that the world was just full of possibility. There were pressures, but I don't think he had the same sense we have that medicine is changing so rapidly that our choice of how we're going to practice is going to be limited by other factors. It's a less optimistic world. My father says now that his career happened at the best part of the American medical system, and that the Golden Age has ended.

J.M.: I'm tempted to go back to Laura and ask again how it worked. Your parents were able to have a family life. What do you think were the ingredients that made it possible?

Laura: We led a planned life. We had constant discussions about what we would all be doing. This weekend my father was on call so we stayed home; next weekend we were free, so we could go to Vermont and spend the whole weekend together. It entailed sacrifices on our part, and on the part of our parents. We knew we couldn't expect to be picked up from school, at all, like other kids were, and if we were picked up somewhere else, it would usually be late. [Laughter.] Communication was important. It makes me at this point more willing to sacrifice, give and take, in other relationships as well.

J.M.: What does your father do?

Laura: He's a psychiatrist.

J.M.: Of course you could argue that psychiatrists might find that easier

Anne: About three-quarters of my residency interviewers came right out and asked, "Do you really think you can go four years without getting pregnant?"

was born while they were studying. They were done with medical school by the time they were 23 and 24. I can't imagine that happening now; times have changed. I'm not sure how they ever managed to do it. I know I couldn't.

Elizabeth: I'm older now than my parents were when they had me. At lunch today I was looking at a student couple in their first and second years who are getting married. They look

in the same direction. I don't really know how to reconcile this.

Laura: I was interested in this subject because I know a lot of people have different feelings about having parents who are physicians. I had a positive experience with my parents, who are supportive, although they're not home all the time. It is possible for children from a family where both parents are physicians to come out relatively ok.

than, say, surgeons or obstetricians; it does make a difference what specialty you're in, I imagine.

Anne: My father is in internal medicine. It seems like he's always doing about a dozen different things, and traveling a lot. It was easier for him because my mother was there, and family was sort of her responsibility. That must have been the attitude then; she was going to take care of the children. She gave up a career as soon as she had my older sister. Those assumptions are not valid so much any more.

J.M.: Let's talk about that, the four of you with fathers who are doctors, and mothers who are not. There was a certain implication in the '50s that if the father had a career, then the mother would pick up the pieces. The mother would work around the house, or would provide child care. That model, I expect, is not one you now would accept. If you're going to pull it off, you're going to have to pull it off in a different way.

Henry: You're right that I couldn't find someone like my mother today [laughter] as easily as my father did—someone who will give up a career, in her case nursing, and raise seven children. My father's an academic pediatric surgeon. Right up until this year, he's never had anyone to cover for him; he's always been on call all the time. We never really had vacations or times he could definitely say would be his own. Also, being in academic circles, he moved around a lot. I've moved about 10 times in my life. I don't know if I could find someone who could do that, or would do that.

J.M.: No, you can't. [Laughter.] It's not a question of "I don't know."

Henry: I'd have to change my concept of what a happy family is. Mine is happy. I like big families, but I don't think I can have one.

Elizabeth: I think my mother was not happy with the situation. She collected a whole slew of master's degrees of various sorts, and she started a Ph.D. someplace, but she never really was able to make a career. I think she did feel in some way that it was inevitable, that it was not really possible for two people to be working. She willingly, initially, gave up her career to facilitate the childrearing. As times changed, I think she felt she had made mistakes. I guess I don't really worry about the happiness issue of two working parents, because

I think there are benefits that are not there when only one parent works.

J.M.: She experienced and shared with you that she gave up something vital of herself?

Elizabeth: I think she wasn't willing to articulate it, but my hunch was that there were some regrets. I think she was envious of the changes that women began to experience, all the opportunity. I guess the other side of

Michael: I feel torn, because I want to take part in raising a family. But when am I going to have the time to do it?

that is that I've chosen to be a physician, and in a way my concerns are opposite from hers.

I'm concerned about whether I'm going to be able to disengage from this fast track of Harvard College, Harvard Medical School, and not end up working every other night at Mass General or someplace and say, "What am I doing here?" I'll be 33 or 34 when I graduate from my residency. That's pushing it a little for me to start having children after residency. I'd like to do it sooner than that. So I'm trying to be careful to make choices at each point, and really think about them.

Anne: When our parents went to medical school, there were a lot more men than women. I don't think the men chose what they were going to do on the basis of lifestyle, but a lot of people I know now, both men and women—especially women who are older and want to have children—think about lifestyle. They go into radiology or psychiatry because it's an easier lifestyle. All my friends' parents who were physicians, like my father, never considered that. You decided what you wanted to do, did what you liked, and you had some other support system to pick up the slack.

J.M.: That's been my experience too, that there is an unwillingness to be unconscious about the way you get into things now. Let's get back to the way you chose medicine and how that related to having a parent or parents who were physicians. Did it evolve

out of expectations? How much did you choose medicine, really, in the first place?

Elizabeth: I resisted the whole idea for so long. In college it's possible to slip through the science requirements by taking courses with titles like Evolution, Genetics, and Society. After I graduated from college, I realized I didn't want to live through the next 10 years without some plan for the

future. I had a sort of epiphanal experience one day when I realized that all I cared about led back to medicine. I was horrified; I could not believe this was happening to me. But then I went back and started taking courses and it was gratifying. My father loves his work, which has made a big impression on me.

J.M.: What does he do?

Elizabeth: He's an orthopedist.

Laura: My parents both enjoy what they do. It really came across. They didn't leave their work in the office.

Sam: I'm going to be a fourth-generation doctor. When I was born, everyone around was a doctor: parents, grandmother, grandfather, great-grandfather. There's a real sense of tradition in the family. For a long time I didn't know what it was to be a doctor, but I saw that my parents had opportunity, and they were happy, and I began to think about how I would fit into that, whether my personality was right for it. Finally in high school I began thinking about my alternatives, but I kept coming back to medicine. I always thought maybe there's a genetic component to this.

J.M.: What do your parents do?

Sam: My mother is an internist and pathologist and my father is a pathologist. She's a pathologist by training, but she wanted more patient contact, so she went back and trained in internal medicine.

J.M.: Anyone else, on this question

of how the example of your parents worked as factors of both resistance and encouragement?

Anne: I think my father enjoyed his work. I didn't see him enough to know. I just heard my mother complain about all the time he wasn't around.

I was going to go to veterinary school. I think I had to go in a different direction so I'd be in medical school for my reasons, not my father's. I remember when I made the decision, two months before going to Tufts, I called home and said, "I think I'll go to medical school," and my parents said, "Ok, that's fine." My father knew I was worried I was doing what he wanted. He never gives me input into anything—which I always know how to interpret. It's not that he lacks interest, but that he wants me to make my own decisions. In that sense I've been lucky, because when I got here I knew I was here for me, not for him.

Michael: I had a similar experience. My father has been hands off too. I resisted doing exactly what he had done—but at the same time I grew up kind of expecting to go into medicine. He's a pathologist, and whenever I was in the lab with him and he was, say, going over a biopsy with some surgeons, I was comfortable with the whole thing. I took time off after college to let it sit, and see how it felt. I feel really good being here now.

J.M.: I think you all have come pretty much to a positive feeling about it. I'm not hearing that any of you were dragooned into it, told that you would betray the family honor if you didn't go into medicine.

Henry: I was never forced, and the expectations were never voiced, but I do know what it would be like for my father if I ever decided to change or if I hadn't decided to become a doctor. A month before my oldest sister was going to start medical school—I was in high school at the time—she decided it wasn't right for her. I can remember my dad, how he was just burning up over it—but he took it well, over time. They are close still, and he recognizes that that was the right decision for her.

I know he's enthusiastic about what I'm doing. I have to admit that my exposure to medicine through him as I was growing up had a lot to do with my interest in medicine. For me, one of the most exciting things a person can do is to be a surgeon, to take care of babies. He used to take me

into the hospital with him on a Saturday morning, and we'd come home around 7:00 that night—when we were supposed to be there only for the morning. I'd spend time in his office and follow him around. It was also a way to get access to him. When you're one of seven kids, sometimes you have to have a line to your parent to get attention. I guess that was mine. I can see my younger brothers thinking the same thing.

J.M.: Your brothers are now faced with some of these questions?

Henry: Oh, yeah. The youngest, Max, is going toward medicine as a career, I think. I tell him it's almost sickening to see how premed he is even as a freshman in college. [Laughter.] We're open about it and I think we all know it's a way to get our father's attention. I don't feel bad about that because not only am I getting his attention but it's a good thing. I've never considered doing anything else.

Sam: I don't think so either. I feel like I grew up with the values of medicine, not thrown down my throat, but somehow instilled.

J.M.: Let's go back to the lifestyle question, which to me conveys the notion of how you're going to balance going through school and training and trying to live a life that is in some way complete. It's a subject that doesn't get settled—at least that's my experience. Maybe it's so alive for me now because I didn't give that much time and attention to it when I was your age.

I didn't have physician parents, although there were many physicians in my immediate family. There wasn't a lot of consciousness about what kind of life one would lead, and certainly there was the notion, for a man, that you would find a woman who would facilitate somehow—not that you wouldn't each have a kind of equality. I'd like to hear more about how you sort out the question of family. Do you plan to have children? And how are you going to place medicine in the equation?

Anne: When I was interviewing for my residencies, I'd say about three-quarters of the interviewers came right out and asked, "Do you really think you can go four years without getting pregnant?" It was as if they were saying, if you choose this program, you may not have children. They never would say that, but I got that impression. At one place, two out of six residents had had children

their first year. The first year is the worst time to do it, because of the resentment of the other residents. I feel that for the next four years I will be giving away my right to have children so that someone can pay me some measly sum to be on call every other night to do my training. I'll think about it again two or three years down the line.

J.M.: You bought into that?

Anne: I guess I did.

J.M.: I don't mean that you liked it, but that you submitted to it.

Anne: Yes, because this is what I want to do. I don't feel that resentful, because I can't imagine trying to take care of a child and being on call every other night. It would be terrible. What they were telling me to do seemed to make sense. It would be very difficult to function as an intern or resident, in a surgical specialty, and have small children. Just shuffling them off to day care is not attractive to me.

J.M.: Anne is talking about a dilemma that won't yield with a more liberal structure. There are some problems that will. If you could design the system differently, it wouldn't necessarily solve it for you, the way you describe it.

Anne: I don't think so, unless I wanted to be a resident part-time for eight years. I wouldn't want to do that. Four years is enough.

J.M.: I thought you were going to say, after telling us what they said to you, that that's not fair, a woman should have the right to get pregnant.

Anne: I think she should, but I don't see how I could ever do it. I know I would be miserable if I had to worry about a family right now. I didn't interview and say, "Oh, my God; if I can't have a kid next year, then I don't want to apply here." It didn't change the way I was thinking of my life in the next two or three years. I thought it unfair, of course, that none of the men were asked that question. They could be asked, "are your wives not going to get pregnant for the next four years? And are you sure you're never going to want to take paternity leave?" We're not at that stage yet.

Laura: That's what I was thinking, that they wouldn't ask the men. As women, we still expect to a certain extent that we will take care of the kids, and that's the expectation of other people as well.

J.M.: What about the value of the idea of sacrificing everything to be a physician? That was strong when I was a student.

Michael: I wonder if someone can live through a residency, or through medical school, and turn off his or her humanity—and just look at it as a sort of monastic ritual to endure in order to get to the Promised Land. I don't see it that way at all. That was one thing my father taught me. I sometimes said, no, I don't want to do this, I don't want to get into something that's going to take so much time and make me more mechanistic and have to plan. He said, "I had great classmates and I really loved my work; there's always been interest for me." I respected that, and when I try to live that way, I find it difficult—but it's possible not to feel like it's a huge sacrifice.

Anne: I think all of us find that to be true. I never really considered it a sacrifice. I'm not looking forward to parts of my internship, but every day a patient will say something that makes it worthwhile. I never look at it as hard work. A patient's face lights up when you walk into the room and you're the doctor. That will keep you going for a week.

Elizabeth: There are so many variants on the conventional package of life. I finally had to admit this year that I get gratification out of studying hard. It's not terrible to acknowledge that if I decided I wanted to be ambitious in my career, and reached 35, and didn't have children, adoption is appealing to me. There are many, many possible outcomes, and I don't have to panic about whether it will all work out in the end.

J.M.: Is that generally true of all of you, that you see the possibilities of a balanced life with medicine, beyond medicine?

Sam: I see the possibility of a balanced life within medicine, but I can only see striving toward that balance during the first two years of internship. I know what my mom went through in internal medicine. She was on every other third or fourth night. Internship is rewarding; it's not necessarily a sacrifice. But there's a point when the physical and mental demands become so great that it's a struggle.

J.M.: Are any of your classmates now married, have babies? What's it like for them?

Anne: Most of the people in my class who have kids are men whose wives don't work, or did work at other jobs but don't now. One woman in our class, married to a man in our class, had a baby two months ago. She is going to take off next year to do research so she can spend more time at home. There's room to be flexible. But it would be hard, with a baby that's less than a year old, to do an internship. She's so happy, I'm sure she doesn't think, "Oh no, I've got to do research for a year." She's doing exactly what she wants to do.

J.M.: From what we've talked about so far, what are some of the strings that are hanging out there that you'd like to pick up?

Laura: It sounds to me like we're all very ambitious, and we want to do everything.

J.M.: You also seem pretty realistic to me. You recognize that you have to delay certain kinds of possibilities, go through training programs. Have you thought about specialties?

active a part of that as I can. That's in part because I'm from a traditional European background. There's a lot of compromise involved, but it's something to be mutually worked out.

J.M.: I appreciate your courage in saying that in this group.

Sam: I've almost lost all future generations by saying that. Given my background, day-care centers are not an option for me. If I'm in residency training, I'm going to either not have kids or find someone that's compatible.

Elizabeth: I've ruled out orthopedics, and most of surgery, but aside from that it's all pretty undecided.

Henry: My interests are still in pediatric surgery, as they were when I was a kid. I know it's a specialized area but I see myself working in that direction.

In terms of family, I agree with Sam that, well, I don't see the possibility, if my wife and I had the same interests, of raising a family I would call well balanced or mutually satis-

Elizabeth: If I wanted to be ambitious in my career, and reached 35, and didn't have children, adoption would be appealing to me.

Anne: I'm going into ob-gyn, if there's any ob-gyn left after all this mess about malpractice insurance.

Laura: I'm interested in public health and international health, the organizational aspects of medicine. I enjoy traveling.

Sam: When I came here in September, I was thinking tertiary care at Mass. General.

J.M.: Tertiary care?

Sam: Chief cardiologist was the kind of thing running through my mind. Since September, I've begun to think more realistically [laughter] about the question of lifestyle, and exactly what kind of family life I want. I realize I might have to compromise; primary care is now also an option.

As far as family, this is kind of dangerous around here, but once I settle down I would like someone to stay home with the kids for three or four years to get them started, if I can't do it—and I'm going to be as

fyling for the children or the parents. I want someone who would stay at home, and would find as much satisfaction doing so as I think my mother got out of raising her children, which may be more than my father got out of his role.

Michael: I thought originally of going into internal medicine, and being in primary care, but at this point I have no idea what I want to do. There are a lot of areas I could be happy in.

As far as family is concerned, I feel torn, because I want to take part in raising a family and don't know how that can be reconciled. I envision or foresee a lot of compromise. When are you going to have the time to do it?

J.M.: How does the fact that you've seen a parent be a doctor relate to how you plan to go about being parents yourselves? Would you do it the same way or differently?

Laura: I don't think I would do as my

mother did and take two years off completely. She had to study for boards, and I think she felt that she could do it just as well at home with babies. She found that she couldn't, and that she didn't have enough of a support system to keep her going, but when she started part-time work, and had some help, it worked out better. I would lean toward a compromise on both sides in terms of professional and personal life.

Henry: I think I'd like not to move as much as my father did, because that added stress to his and my mother's worries—and to the children's.

Henry: I don't see the possibility, if my wife and I had the same interests, of raising a family I would call well balanced. I want someone who would stay at home.

J.M.: What was it like for you?

Henry: I liked it, moving around as much as we did. With a large family, we had our best friends coming with us, and it was an adventure. I think it was harder on my younger siblings.

Anne: We moved a lot too, because my father's in academic medicine. My father was always surrounded by new people in his job, and so had a support system, and when we were younger my mother met our school friends' parents. The last time we moved, when I was in college, my mother went down into an emotional vacuum. They've been living in Houston for six years, and she can't stand it, because she has no way to meet anybody. It's hard. My father could come home one day and say, "We're moving to Houston." *We're moving.* I've defiantly said, well, I'm going to have a career, so someone is going to have to consider what *I* want.

But I don't know how realistically that's going to work out. It's easy to say that's not going to be me. Just like I say I'm not going to be like my father and never be around. But if I was really concerned, then maybe I would not choose ob-gyn. I'd rather do something I love for 20 hours a day than something I don't. I see a lot of bumps in the road ahead, but I guess I'll get through.

J.M.: Anyone else on how it was for you? And how you'd do it differently if you could?

Sam: I don't see myself marrying a physician, so I don't think I'll have the same problems my parents had. In Europe we had a huge support network, and the whole family's still there except for us—so even if I did marry a physician, I couldn't do things the same way. It worked beautifully for my parents, but I don't see it's possible, with the conflicting schedules.

J.M.: One of my questions before we met was whether there would be a certain amount of resentment, that you might feel programmed to be-

come physicians through pressures in the family and an absence of choice. I haven't gotten that sense at all. I have more the sense that you're here out of a desire to be physicians and that the model you've developed in your families is positive. At least one, and perhaps both, of your parents is doing something you value and respect—and that's meaningful to you in terms of who you are and who you are becoming.

There are problems—the father who wasn't home on certain holidays or special times—but by and large it meant a lot to have a parent or parents who were doing something they loved. There's a certain inner strength from that identification for each of you.

Elizabeth: I was thinking as you were talking: how nice to have these problems. How lucky we are to have to make these choices. Most people don't have many choices.

J.M.: And maybe your presence here is in a sense a kind of giving. In other words, you want to contribute something of this experience, you want to share it, you want to give something back that you've gotten. I may be romanticizing this, but it's come through strongly that who you are is an expression of your love for your parents, and also that you're expressing that feeling through being here to communicate it, get the word out.

I don't want that to sound like a

peroration or a benediction, but it is what I'm getting from you. I don't want to close off debate with that notion.

Laura: I feel I can share more now with my parents, in terms of my medical education. I tell them what I've learned and what they never got in medical school.

Elizabeth: It's heightened my respect for my father. Last year I brought home one of my physiology camels, and he flipped through it and answered the questions. I was amazed. My father's an orthopedist, and he knows all this.

Laura: I'm constantly amazed that my parents still know practically every bone in the body.

Sam: Which we don't. [Laughter.]

Anne: I had an opportunity this summer to spend a month with my father when he was an attending. I went home with mixed feelings. He told me he would expect eight times more of me than of anyone else.

I had a blast. We worked from seven in the morning to at least nine at night. I would do it over again in a minute. It was such a thrill for me. When patients asked, seeing our name tags, "Are you related?" he beamed with such joy. I considered myself fortunate that my father was in a position in which I could learn so much from him.

J.M.: That gets back to the mythology of the business of pleasing one's parents. The notion of pleasing one's parents is looked upon as negative, largely due to distortions to which my profession has contributed: if you're pleasing your parents, then you're not being true to yourself. Somehow, that represents sacrifice. Of course, if you have to bend yourself out of shape in order to do the pleasing, then it's not natural. The notion that doing something to please one's parents is a healthy phenomenon is very little credited, I believe.

Elizabeth: I wonder if others share the sense of security I have in knowing my father is a doctor—even though he did dismiss most complaints as minor. When my mother got sick, he was able to mediate the morass of hospital regulations and procedures. It impressed and comforted me that she wasn't going through it without a real advocate. I have to say that it has always been in the back of my mind that as my father ages, I will be able to do the same for him. It's comforting to me. □

BALANCE OF POWERS

A Surgeon Remembers His Father

by George Richardson



When he was 50 years old, in 1931, my father had a massive stroke involving the dominant hemisphere. He was then John Homans

Professor of Surgery at Harvard Medical School and chief of the first full-time surgical teaching unit at Massachusetts General Hospital. He had graduated from HMS in 1906 and had been surgical assistant to his father, Maurice Howe Richardson, up until the latter's death in 1912.

M.H. Richardson had been a grand expansive outdoorsman, long-distance swimmer (Martha's Vineyard to Hyannis, Plymouth to Provincetown), musician (piano and bassoon), itinerant surgeon (traveling by Stanley steamer with a nurse and an assistant), general surgeon in the broadest sense (trigeminal neurectomy, total gastrectomy, radical hysterectomy, but mostly, and soon after Reginald Fitz, appendectomy). The right-angle retractor(s) that bear his name memorialize him. He happily flaunted his powers (he liked to write the Lord's Prayer in a circle inscribed around a dime) and he was well rewarded.

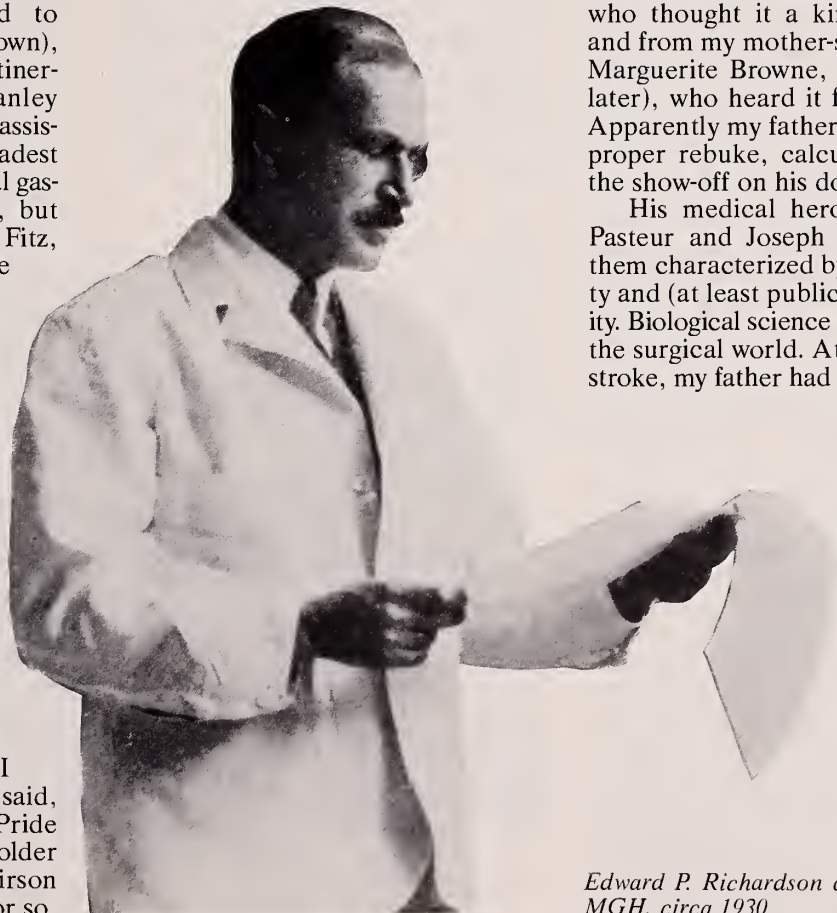
In contrast, Edward P. Richardson, my father, was "modest to a fault," as surgeon Arthur Allen described him in a tribute at the time of his death. The prototypical man of few words, he was clear about his dislike of show-offs, whom he called bores. I remember showing him some childish trick in the phase when I wanted to be a circus clown; he said, not for the first or only time, "Pride comes before a fall." After my older brother Peirson (Edward Peirson Richardson Jr. '43A), at age 12 or so,

had exhibited a racing trophy on the downstairs mantle for a few days, my father quietly said, "Don't you think you should take that up to your room?" He thought one should achieve to accomplish something, not to get a prize.

One of my father's trainees, the late Langdon Parsons '27 (who became a gynecologic surgeon and textbook author), struggled long and hard to impress my father without noticeable result. On one occasion Parsons

made an especially strenuous invasion of the surgical literature, the results of which he paraded in presenting a young child whose actual illness no one remembers. The child's crib was decorated with hand-cut paper dolls. At the end of the presentation my father simply patted the child, examined the dolls, and said, "Isn't it curious that paper dolls always have their feet turned outward?" That anecdote comes from three sources, with three different interpretations—from Parsons, who felt disappointed and bewildered; a witness (Oliver Cope '28), who thought it a kind of drollery; and from my mother-substitute (Miss Marguerite Browne, of whom more later), who heard it from my father. Apparently my father considered it a proper rebuke, calculated to arrest the show-off on his downward path.

His medical heroes were Louis Pasteur and Joseph Lister, both of them characterized by great humanity and (at least publicly) great humility. Biological science had just entered the surgical world. At the time of his stroke, my father had embarked upon



Edward P. Richardson during rounds at MGH, circa 1930



Maurice Howe Richardson (George Richardson's grandfather) on Ward E, MGH

the special problems of thyroid and parathyroid surgery and was co-author with James Howard Means of the first edition of *The Thyroid and Its Diseases*, which was to become a seminal textbook on the subject.

We children knew that our father was an important surgeon at MGH, although he was careful to convey the puzzling information that he was not the full head, but only half-head, of the department. He had taken out somebody's entire stomach and could draw fascinating pictures of skulls and such things. He got journals with pictures of intestines in them, and he seemed to have read and know almost everything—though our observation was that he read mostly detective stories, which he carefully graded. While he read he smoked Fatima cigarettes and dipped into bittersweet chocolate.

My father had some impressive shotguns that he used to win trophies at trap shooting and to hunt partridge, woodcock, and ducks, according to the season. In season, also, he went fly fishing, or, in a sport he pioneered on Cape Cod's outer beaches, surf-casting for striped bass. He was a sharp observer of nature; his keen appreciation of animals made him dislike the anthropomorphic creatures of our children's books, except for *Winnie the Pooh*, which he read aloud to us with relish. As a child, he had participated in the near destruction of shore birds by hunters, and he had

appreciated their return when shooting them was prohibited after 1915. Long before awareness of ecology became fashionable, he was obsessed with the concept of the balance of nature. Balance, in his view, was the key to right living (an idea to be developed in other ways many years later in my brother Elliot's book on politics and society, *The Creative Balance*).

My father's devastating cerebrovascular accident was the second severe test of his own balance. My mother's untimely death, a few days after I was born in 1921, was the first. Following a courtship that was smooth after overcoming the first hurdle—the formal presentation of a bunch of violets—he had married the daughter of fourth-generation Boston physician Frederick C. Shattuck, HMS Jackson Professor. She was generally considered charming and beautiful; the remaining photographs prove so in this writer's estimation.

My father carried the loss stoically. His brother-in-law George C. Shattuck (HMS professor of tropical medicine) attempted to help him express his grief by sharing a bottle of whiskey—and got drunk in the process without producing the desired result. At home there was a storm, as maids hired to care for the older two boys were splashed with bath water and generally rejected. Finally Miss Marguerite Browne came into the picture. She never talked about her past, except to allude to her youth as a social

worker and militant socialist and some happy years with the Mixter family. She stayed and ruled for 40 years.

My father's word was Miss Browne's law. She believed that since we were his children all things were possible for us. She refused to admire achievements that did not reflect moral effort, passing them off by saying, "that's no credit to you—you inherited that." And she didn't hesitate to venture at times that she thought we were the damndest fools that ever drew breath. She believed people should be of some use to society, that doctors were the most useful, and that the best doctors were the Richardson surgeons and the Shattuck physicians, in that order. Our great-aunt Maude's favorite niece's husband, virologist John Enders, was "just a research man."

Miss Browne knew nothing about medicine or biology and had no interest in either, but was fascinated by politics. She scorned hypocrisy, within the family as much as outside it, and came to disapprove equally of James Michael Curley, Franklin Delano Roosevelt, and later Harry Stink (her appellation) Truman. She had little faith in book learning; and when we children became heavily addicted to books she threw us outdoors. "Anyone can read a book," she said.

My father's stroke was preceded by a premonition. He wanted Miss Browne to record his thoughts, his ideas, before they were lost. He dictated volubly; she could only pretend to write it all down. He soon became comatose, was hospitalized at MGH, and was expected to die. Important relatives, medical and nonmedical, thought he should be left there to do so. Miss Browne waited for the weekend, then persuaded the house physician, Dr. Tillotson, to send him home in the care of male nurses.

We children were delighted to see him. He could not speak, but he could sing little French songs recalled from the trenches of World War I, and we quickly learned to sing them with him. Recovery left him with a hemiplegia and a considerable degree of aphasia. With his circumduction gait, he swayed like a tall ship under sail as he walked. Years later, when I was a medical student, he explained his stroke to me, including a diagram of his defective visual fields which he drew and held up to his eyes.

Balance reasserted itself. He rebuilt his vocabulary by studying a high school dictionary page by page.

We children knew our father was an important surgeon at MGH. He got journals with pictures of intestines in them, and seemed to know almost everything.

He regulated his life with a dollar pocket watch: breakfast, walk, read, lunch, nap. He tried to relearn card games and to swim, but abandoned both. He did learn to draw and paint well with his left hand. He could line-fish off the side of a boat, hook the fish, and pass it to someone else to haul in. He loved to be driven about, and he kept careful notes in a shaky, back-tilting hand on his trips: "Quincy shore, 50 black ducks; Woburn, new construction." He explored during the evenings too—through the writings of 19th-century explorers, *Voyage to the Edge of the Polar Sea*, *The Sources of the River Oxus*—always books with many maps. His illness did not prevent us from traveling together as a family. In the winter of 1935, he took us three boys out of school for the most ambitious trip: a three-month tour of Europe during which all of us wrote or drew or painted—and read.

We three boys were geological eras apart when my mother died. The oldest, Peirson, never accepting the new dispensation, hunkered down and quietly went his own way. The stroke came just as he would have been introduced to guns and hunting. His distinguished career in neurology undoubtedly represents his creative response to the awesome mystery of that episode. The second son, Elliot, always the rebel, went into government and politics.

I, the third and, as the youngest, the spoiled one, aimed to take up my

*With my father's stroke,
the opportunity for
sharing the experience of
becoming and being a
surgeon disappeared.*

father's broken career. I had no idea of surgery as related to biological science, but only as based on gross anatomy and resistance to being shocked by things like pus. I saw and smelled a lot of it when at age 11 I had my second appendiceal abscess drained by Charles G. Mixer '06, who had drained the first when I was a year old. I grilled the nurses for operating room stories. My father's stroke followed soon after, and with it disappeared the opportunity for sharing the experience of becoming and being a surgeon. Although I had visited MGH and knew where his office was, I had never been on rounds with my father or seen him at work. I used the dictionary to piece together the names of bones and muscles and oth-

er anatomical details, and I did not hesitate to exhibit my knowledge. By virtue of subscribing to the Little Blue Books (Haldeman-Julius, Girard, Kansas) I was able to share with friends *What Every Boy Should Know*, *What Every Girl Should Know*, *What Every Young Man Should Know*, *What Every Young Woman Should Know*, *What Every Man Should Know*, and *What Every Woman Should Know*. With this grounding in gynecology, and a strong college record in literature, I was able to enter Harvard Medical School in 1943.

My own oldest son is currently a second-year student at HMS. I continue to be amazed by the decisiveness with which he chose a medical career and by the determination with which he has pursued it. I had nothing to do with either. He and his two younger brothers, however, have had the opportunity to visit my laboratory, see patients with me, and even visit the operating room.

My father died during the war years when I was in medical school. Peirson, the neurologist, had been recruited into psychiatry in Hawaii. Elliot had failed to become the combat infantryman he wished to because of poor eyesight, and was reduced to following the family tradition, becoming a much-decorated Litter Bearer Platoon Leader for the Fourth Infantry Division, surviving Normandy and the Bulge, and entering conquered Germany.

On what was to be his last day, my father had me take him for a drive. He knew the location of some eskers (ridges deposited by glacial streams; I didn't know what they were either) and wanted me to drive him to see them. The roads were icy, and I thought it was best to turn back. That night, 14 years after his first stroke, he had his final and fatal episode.

I never thought of him as disabled. He had found a fulfilling career within the range of his disabilities. As a college student, I was shocked when an older friend with whom I was learning to speak German came to the house and met him, remarking afterward, "It's terrible to see a man tied up like this." He was not tied up. His life was in perfect balance, better than most. □



Edward P. Richardson with sons Elliot (eye bandage), Peirson, and George (foreground), returning on the North German Line Columbus from a trip to England, summer of 1930

George Richardson '46 is HMS associate professor of surgery and a gynecologist at Massachusetts General Hospital.

LETTERS FROM A YOUNG PHYSICIAN

James Jackson Jr. and His Two Medical Fathers

by Margaret Warner



MARGARET WARNER '87 first discovered the letters between HMS professor James Jackson Sr.—a founder of Massachusetts General Hospital—and his physician son, James Jr., through the work of her husband, John Harley Warner, on 19th-century American therapeutics. (His book *The Therapeutic Perspective* will be published in July by Harvard University Press).

Although she enjoyed the letters while a graduate student in the history of science at Harvard (Ph.D. 1983), Margaret Warner told the *Bulletin*, "it was not until my third year of medical school that the letters took on a personal relevance. Training in the wards of MGH, and sitting beneath Jackson Sr.'s portrait hearing lectures on electrolyte imbalance and GI bleeding, I felt drawn into a web of medical tradition."

All the letters quoted here are in



J. Jackson Jr.

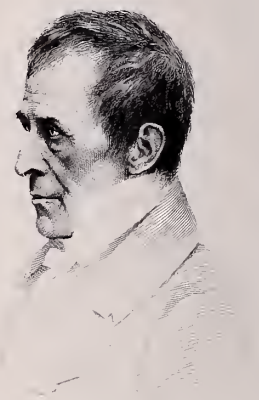
the collections of Holmes Hall, Countway Library. Some are reprinted in Jackson Sr.'s *Memoir of James Jackson, Jr., M.D.* (Boston, 1835); those from James's mentor Pierre Louis are Louis's published translations of the French originals. Abbreviations in the letters have been spelled out.

James Jackson Jr. to his father
22 February 1833

In my idea of the end I should propose to my life, my mind has greatly changed since you rocked last my cradle. My view was then almost bounded by becoming a good physician. Now my much more ardent desire is to do my part in clearing away some of the clouds which hide the truth in our difficult medical science. I am beginning to regard myself as one of those whose education has been such that it is in his power and whose disposition is such that it would be his delight to seek and find *truth*, pathological or therapeutic. You and I do not look upon this subject with exactly the same eyes.

So wrote James Jackson Jr. to his father 150 years ago in one of a series of letters from Europe that reveals a young man increasingly torn between the visions of two medical fathers—one natural, one acquired. The first was a respected American practitioner, the second a proponent of the more rigorous scientific approach then being developed in Europe.

James Jackson Sr. was a leading figure in Boston medicine, a founder



James Jackson.

of Massachusetts General Hospital, and a prominent professor at Harvard Medical School. James walked the wards of MGH at his father's side and sat in his lectures at HMS. In 1831, after two years of such study, James—like hundreds of American physicians in the second quarter of the 19th century—traveled to Paris, then center of the medical world, to study medicine in its vast hospitals. There Pierre Louis, a famous French clinician, adopted James as his acolyte.

James's letters speak eloquently of the process through which a medical student learns to face the emotional burden of medicine. Medical students often rely on the wisdom of preceptors to deal with the fears and uncertainties aroused during patient contact. The bonds forged in the clinical ambience of suffering, pain, and

death can be intense and lifelong. In the letters between James and his father, the familiar relationship of preceptor and anxious student is paralleled by that of parent and troubled child.

James to his father
on departing for Europe
15 April 1831

Though I love to dwell on the relation, which exists between us, and the circumstances and scenes and events, which have arisen from that relation; yet I have sometimes taken another view of the subject. I have considered the relation of parent and child as adventitious or accidental;—I have looked upon you and myself as two beings whom God has placed upon this earth, and whom accident has brought together; I have then thought of how much I was indebted to you for all the principles and knowledge and powers that I possess;—but, my dear father, I will stop. You see what is in my mind,—I have been writing you, till I am getting too much excited;—but it is a holy excitement, and will do me good.

In Paris, James became skilled at physical diagnosis. Given the high mortality from uncontrollable infectious diseases, he often had the opportunity to follow his patients to the autopsy table for confirmation of his findings. He particularly valued the chance to learn auscultation and percussion; for Americans the stethoscope was still a new instrument in 1831, unfamiliar even to James's gifted father.

In his letters home, James meticulously elaborated the fine distinctions among diseases which his new skills facilitated. He was frequently jubilant about his success in predicting post-mortem findings, though his zeal for diagnosis did not alleviate his horror over the impotence of medical therapeutics to arrest the course of the diseases he was identifying so well. This experience, a rite of passage for every medical initiate, persists for the modern student faced with treating malignancy, AIDS, or the multiple chronic ills of the elderly.

James to his father
24 November 1832

Shall we ever get to a solid bottom? Shall we ever have fixed laws? shall we ever know, or must we be ever doomed to suspect, to presume? Is

perhaps to be our
qualifying word for-
ever and for aye?

James to his father
25 January 1833

How sad is this auscultation! these positive physical signs; which though in themselves not enough, yet put the seal of certitude upon what before was doubtful; destroy the plausibility of many a willing interpretation of other symptoms; and leave us to fold our hands and await the event.

No matter how impressive were the diagnostic and pathological skills he observed abroad, James repeatedly reassured his father that Jackson Sr.'s therapeutic acumen was unrivalled.

James to his father
12 September 1832

It is enough to say, my dear Father, that on this side of the Atlantic I have never seen the physician, who from his knowledge of disease, his experience in its treatment and his judgment in all things thereto concerning at all equalled yourself. It is not filial affection which blinds me, tho' you know that is not weak; I have written you from Paris, that in some respects [my teachers] Louis and Andral surpassed all; this is the necessary result of their situations: but for the end which we are all driving at viz: to attain the ability to afford the greatest possible aid to the diseases of man, than God, my own father has not to my knowledge his equal. This I say to show you that the advantages I may enjoy with you are truly greater in the way of Therapeutics than any I can have here.

James grew increasingly disturbed about the uncertainty of therapeu-

No 4.

Paris. May 30.
My dear Father,
Here I am at last in the designation and my hopes. I arrived on the 1st and I can hardly get persuaded myself that I am in that I have left behind me, so different is anything wh. I had ever conceived. My first calling upon 2 or 3 people whom it was impossible as Mr. Meller and one or two of my own friends about the city—yesterday, there was a great king at Versailles—I went ~~and~~ to it fellow-passengers—I will not speak to splendour of the various scenes wh. I saw that for the girls—suffice it to say or willingness to be spending any time lions—on the contrary, I feel a place permanent residence at medical studies wh. have now become sense was not at all lessened. I of fr. Cha's Jackson who held out to almost craved me—Maugerie on instructions at La Charité with

tics, and wrote his father long letters questioning the efficacy of widely accepted remedies. The father's pragmatic reply to the son's zeal for perfection reflected experience at many bedsides.

Jackson Sr. to James
20 March 1833

You seem quite sober on the subject of your scepticism on the subject of therapeutics—and evidently fear that you and I differ much in that respect. I would not have you troubled on

that score—find the truth—I am not afraid. This is a matter I have thought of and looked at in all the respects in which you seem to regard it. You suppose me to have more faith in the power of remedies than I have. Yet in many points I have no doubt a practical faith which I could not at once impart to you. When you left here you were not enough advanced to go into the depths of the matter. . . . I hear you say, how then have you *so much* faith in medicine. *So much!*—*how much?* Now to answer all this I must have more space than a sheet of paper.

Briefly—I think it a most rare thing for a physician to save a life, which the disease would have destroyed. Especially is this true when a disease has lasted many days. [Jackson Sr. then enumerated a few diseases in which he believed he had actively saved patients, or alleviated their symptoms.] But I never fall into the error of believing that I cure (in the common sense of that word) any large proportion of my patients. And when I hear that a physician saves most of his patients with an epidemic fever, I say that it is not a mortal epidemic, whatever name it bears. I do not like this use of the word cure—this prejudicial sense of it. For it is a very good word in its proper sense and I do not know any substitute. Accordingly in my lectures I always state that it is derived from *cura*—the physician should take care of the sick—he is or should be more capable of this than other persons—but he should not undertake by drugs to overcome all their diseases.

Be vigorous in demanding evidence before you adopt a principle into your system of science. It is for this reason that I have a habit, which you may remember—viz: when a young man asks me a plain question as he thinks it, I seldom say yes or no, but go into a disquisition to show the proper limits to the question and the answer, and let him see the uncertainties. The young man often wishes that I would be more satisfactory and decide the matter, but I cannot help that. On the other hand in practice one must not wait for certainty—we cannot—we never do in the common affairs of life. We must do what is expedient—what presents to us the most and best chances of success under the circumstances of the moment. . . . Do not always be afraid to act without demonstrative evidence that you do the best thing. . . .

In all matters be as precise and exact as you can. . . . But do not believe that in practice you need wait for mathematical certainty. There is a propitious incredulity as well as the opposite. However I have no fear that you will ultimately fall into the practical error of extreme scepticism. Meanwhile be as rigid as you will in your scientific inquiries and conclusions.

Jackson Sr. had earlier told James not to be so anxious about the practice of medicine, nor to expect too much of himself. He was confident that James's worries would soon dissipate when he was actually in practice.

Jackson Sr. to James
16 June 1832

I almost think that a man may learn so much before he begins to practice as to prevent his doing well. Too much knowledge of the dangers and difficulties tends to paralyze one's powers—or at least to check one's efforts.

Jackson Sr. to James
27 January 1833

I think you will come to more definite notions on therapeutics after 7 years residence in Boston—or perhaps 10. There is much ground for what you say,—yet the physician may do much.

As much as James honored his father, he could not accept this pragmatic answer, with its predetermined acceptance of failure. In the Paris hospitals he found an alternative solution, embodied by his "second medical father," Pierre Louis. James became entranced by the prospect of clinical research, and acquired a taste for science unusual in American medical men of his generation. The French brought rigor and statistics to the depiction of the natural history and clinical-pathological correlates of diseases. James was zealously optimistic that this method would lead to the generation of certainty in medical practice.

James to his father
27 February 1832

The truth is Louis is a remarkable man, and his system of pursuing medical science a most excellent one. There are without doubt many questions that cannot be resolved by

counting; but to draw a description of the natural history of diseases, you cannot proceed without it. What is the chance that such a disease will prove fatal? How often does such a symptom occur? What part of an organ is most often affected in a certain disease? How often is such and such a lesion found after death, when such and such symptoms have preceded? . . . Had medicine been studied for one hundred years, as Louis now studies it, our knowledge of the natural history of disease would be placed upon an infinitely more certain basis; and diagnosis, and prognosis, and consequently therapeutics vastly more advanced.

Pierre Louis was one among many eminent Parisian clinicians. His influence on American medicine was stronger than that of many of his colleagues because he seems to have particularly favored American medical students studying in Paris. He certainly had a strong fondness for James, which the young man returned. James called his time in private lessons with Louis "the most delicious of my Parisian hours," and spoke ardently of his love for his master.

James to his father
25 April 1832

Louis—I blush with shame and yet with joy and pride as I write his name. Next to yourself there is no one . . . to whom I feel so much indebted for what little I possess of medical knowledge as to Louis.

Louis stirred ambitions in James that were in direct opposition to his father's goals for him. Jackson Sr. wanted his son to study abroad for a year or two, and then come home and begin practice. But to Louis, James was a promising scientist; in his protégé he saw a gifted and disciplined observer who could continue the dream that Louis had begun of bringing laws to medicine. James became intoxicated with this vision.

James to his father
22 February 1833

I live among men who acknowledge that they know on the vast majority of subjects only very approximate and imperfect truth. . . . How shall we get out of this darkness? There is but one mode. Can we do it by reading? The books contain more falsehoods than truths and of these last scarcely

any that are proved. By theory a priori? The world has long enough suffered from this. But we can observe with care the phenomena of Nature; we can collect our facts; and from these draw rigorous results. To this I would (were I alone in the World) willingly devote 5 or 10 years in the Parisian Hospitals—because I have the most entire conviction that in so doing I could arrive at most important results.

James to his friend Walter Channing
16 February 1832

In truth, if I rejoice at anything, it is that I left America and now remain unattached to any one; for it may be very inconvenient for me to be married these 10 years. Marriage and its consequences cost too much time and the science of Pathology as it is will require more than my whole life most actively spent. I burn to do something, to write or to leave something 20 or 30 years hence which shall last . . . something truly and essentially useful, which will advance the science or that portion of it which I now love like life. And yet when I look forward, I tremble. When I see what circumstances are to surround me 5 years hence; what new desires will have been created; new interests; new wants to satisfy, new forms of ambition, new rivalries etc. I tremble for my onward steady course, making truth and science my only pole. Would to God, I had never to work for money. . . . I should burn this letter if my fire had not gone out while writing it and I have not time to write another.

It was fairly easy for James to reconcile the opposing plans of his two medical fathers as long as he was geographically distant from his natural father's direct control. His "going into business" was a vague event in the future, while new opportunities to pursue science daily opened before him. Yet the spring of 1832 made him face the incompatibility of his contending filial obligations. Epidemic Asiatic cholera was threatening Europe, and Jackson Sr. explicitly ordered James to come home before the disease reached Paris. James—who assured his father that persons of his class and health were not afflicted with the disease, and that he was safe—longed to stay and study the disease. In a great act of rebellion, he did so.

James to his father
8 April 1832

I almost weep to write you again from Paris. It is now the first moment in my life that I have been placed between two duties, each binding, and where my great difficulty is to decide which is the most so. But I have decided, as I know, against your wishes. God grant that circumstances may be such that you shall soon accord with me, when the time is passed. A medical man has duties;—I am a boy in medicine;—granted;—but I am like the other Americans here about me. An opportunity is offered us to study a disease, which will probably visit our hitherto untouched country. . . . If I can be the means of directing the attention of our physicians to certain points, an attention to which will enable them to save one in twenty of those affected, and that one would have died without it,—what is my duty? to stay and study.

Having once challenged parental authority, James grew even bolder in his letters home. After his hospital experiences, and the composition of a treatise on cholera, he felt himself his father's superior in knowledge of the disease. He disputed Jackson Sr.'s notion that cholera was contagious, and even more strongly condemned his idea that cholera was curable.

James to his father
25 April 1832

You say you are getting to be convinced that 9 out of 10 may be saved by early treatment. Would to God I were convinced of it. Will you know what I have seen here—it is that not 1 in 20 or 30 who have been thought in any danger at his entrance has gone out alive and were I ordered to point out the 20th I should find it difficult.

*My dear father,
I am the in-
my your friend from the
all the news I don't see
all well. I shall write
from here to London
perhaps of April. To
this meets you in England
probably have for the
advised to come of N.
Brother of G. —
in the way later the
prudent men. But
is the last thing in
you to judge however
Yours
Tell Dr. Beut that when I go
he please introduce them to
letters leave in the in case*

You have no conception of the mortality and allow me your son and pupil, to say to my father and master, you have no conception of the disease and will not have till you have seen it. The French even who look upon death and dying with as much sangfroid as any people were thrown off their balance. Never shall I forget Louis' altered face and aspect for the first week—emaciated, wan, wretched, like one who has received a blow from which he had not recovered.

In his newfound cockiness, James felt that the accepted teachings of many

authority figures had to be reexamined.

James to his father
29 May 1832

I am growing a great sceptic as to *medical books* or rather that contained in them, since I have been a little behind the scene and know something of the mechanism of their manufacture since I have mixed with medical men and found even those called great, generalizing where they should not generalize and forming their decided opinions on all important subjects upon too little evidence. It is for this reason that I will publish nothing but facts which must be useful to him who will study them.

Jackson Sr. ultimately accepted James's decision on cholera. But he was not prepared to go further than allowing James a bit more time in Europe than originally planned. In the fall of 1832 Louis suggested to Jackson Sr. that James be allowed to devote a few years to research before beginning practice. Accompanying Louis's letter was one from James.

James to his father
21 October 1832

As for Louis he is almost your rival in my breast, so much does he treat me like one belonging to him and such care does he take to afford me all frailties and call my mind to everything worthy of attention.

The struggle for James's soul was on in earnest.

Pierre Louis to Jackson Sr.
28 October 1832

It did not require much time for me to appreciate fully the sagacity and talent, which your son possesses, in the observation of nature. I had remarked these characteristics in him, before I knew who he was. Soon afterwards, learning that he would ere long return to Boston, I pointed out to him the advantage it would be for science and for himself, if he would devote several years exclusively to the observation of diseases. I now retain the same opinion and am strengthened in it; for the more I become acquainted with him, and the more I notice him applying himself to observation, the more I am persuaded that he is fitted to render real service to science,—to promote its progress. I find that he

would be well pleased to follow for a certain period the vocation, for which nature has fitted him; but he has stated to me that there are many difficulties, which would prevent his devoting himself exclusively to observation for several years. But can these difficulties be insurmountable? Must we compel ourselves to believe that a man, whom nature has peculiarly qualified for observation, cannot be permitted to exercise the peculiar talents bestowed on him? For my own part I cannot admit the belief; I hope and trust that the difficulties, of which Mr. Jackson has spoken, will disappear.

Jackson Sr. responded that his son must come home. Louis tried again, this time urging the plan that James could study disease in Boston, but defer practice for several years.

Pierre Louis to Jackson Sr.
22 March 1833

I feel more than any one else how much you must long to see as soon as possible a son, whose profession is the same as your own, and with whom it will be so delightful to you to converse respecting it. Indeed, I never thought of inducing you to leave him with us in Europe for four or five years. I love in Mr. Jackson the man and the physician; but he is a son, and you are a father; and though I have never known the delights of paternal affection, I should not have regarded as possible the sacrifice which you understood me to propose to you. My only wish was that you should allow your son to devote himself exclusively to observation, for several years in Boston.

[Louis urged Jackson Sr. to “consecrate him for a few years to science” so that the laws of medicine could be further elucidated.]

Who is to discover these laws? Who should be a diligent observer of nature for this purpose, if not the son of a physician, who has himself experienced the difficulties of observation of disease, who knows how few minds are fitted for it, and how few have at once the talents and inclination requisite for the task?

The elder Jackson was adamant. There was no place in the MGH of his era for pure research. He told James that perhaps he might mingle some research with a not-quite-full-time medical practice, but he must

return and begin his business. His son reluctantly agreed.

In his Memoir of James Jackson Jr. (1835), Jackson Sr. rhetorically asked after his son's death:

Why could he not adopt the plan fully? Because in this country his course would have been so singular, as in a measure to separate him from other men. We are a business doing people. We are new. We have, as it were, but just landed on these uncultivated shores; there is a vast deal to be done; and he who will not be doing, must be set down as a drone. If he is a drone in appearance only and not in fact, it will require a long time to prove it so, when his character has once been fixed in the public mind.

... Among us, where the hands are yet few in proportion to the work to be done, every young man engages as soon as he can in the business of life.

James had little choice but to accept his father's decision. Aside from the issue of financial support, it is unlikely that he could have tolerated the alienation of his father's affections. Still, the youth's ambivalence is evident in a letter commenting on Louis's plan for him.

James to his father
1 November 1832

You must not believe all that he says or you will be sadly disappointed, at my return—and yet, I should be sorry if what he says be not *partially* true—as to his plan of my staying in Europe four years to observe of course I would not do it even if you were to command me to. I would not, so strong is my desire to be with you and so firm my conviction that with you and from you I am to obtain what I can't get elsewhere—and yet there can be no doubt that 5 years thus spent in Pathological researches would give me a vast advantage over my confreres. You can't imagine how much I enjoy the kindness and friendship of Louis. The intercourse between us is more free than that I have ever enjoyed with any distinguished medical man except yourself and I might say almost approaches that even.

As James prepared to come home in the summer of 1833 he received a letter in which his father gently reasserted his professional authority.

Jackson Sr. to James
12 June 1833

I wish that you may not be too ready to talk about that [Louis's method] or any other system as the best in the world. It never appeals in a young man to profess to have found out the best way,—tho' he should try to find out the best way in every thing. I shall like myself to learn all there is comprehended in this system. So far as I know it there is nothing new in principle. The excellence of M. Louis, as I understand it, is in the accuracy, the fullness and the comprehensiveness of his observations. The necessity of exact observation and the advantage of keeping a list of the numbers observed upon has been stated and urged and practiced long ago. All this has been done more in respect to the treatment of disease, than in respect to symptoms etc. it is true. . . . I state these things to guard you against stating as new what is not so. . . . If he [Louis] and his successors will continue in the same course the French will, in 50 years, be as much more exact in their knowledge of therapeutics, as they are in pathology. They have laid and are laying an excellent foundation. I shall certainly wish that you may cooperate with them. You may do much—but you can not prosecute your inquiries here just as you do and can easily in Paris. This is one of the difficulties in your plan of exclusive observation. . . . I feel as if it were not quite fair to allow you to indulge too fondly expectations which cannot I think be realized in the manner you propose to yourself. To a certain extent your plan may be accomplished—but I think it may be done as well if you engage in business as if you do not—or nearly as well. . . . I am glad that M. Louis has gratified you as to his practice—as to mine we will talk when you come home.

One month later James Jackson Jr. left France with great sadness. In his last letter home he wrote:

James to his father
13 July 1833

In two hours I am out of Paris. I will not attempt to describe to you the agony it gives me to quit Louis; he is my second father and God knows that I of all men can not use that word lightly. I may not persuade you to look upon him with my eyes exactly as a scientific man but in your heart

he must have the share of a brother for he almost shares my affection with you.

Three weeks after arriving back in Boston, James fell ill with a gastrointestinal complaint that was most likely typhoid fever. He was sick for most of the subsequent nine months, during which he passed the examination for an M.D. degree from Harvard Medical School. On 27 March 1834, a few days before he was to occupy office space his father had arranged for him, James died. One of his Parisian-trained friends performed the autopsy and wrote a detailed report which Jackson Sr. subsequently included in his Memoir. James would have been pleased.

Francis Boott, a London friend, wrote the grieving father:

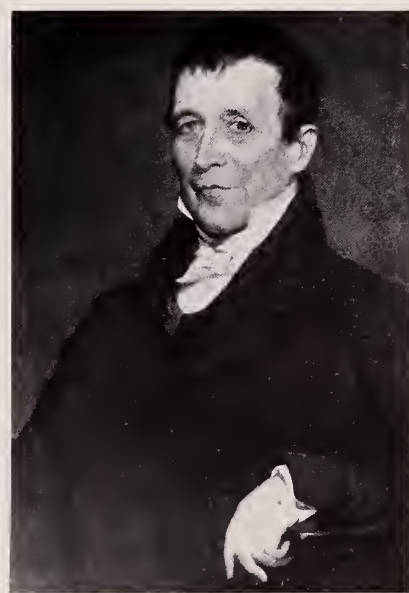
Francis Boott to Jackson Sr.
7 & 10 May 1834

There was a pleasantness in all things

about James that was not of the earth. His high aspirations after distinction and usefulness in his profession—his strong conviction of there being a power within him to bring forth light & order out of what he felt was confused & dark—his firm belief that he had only to apply the magic wand of his honest mind, enlightened by patient observation and purified from all speculative views by rigid induction, to Diseases, and that the dead would reveal to him truths unheard of before, and that he should become what Louis told him he might be—a Law giver—all this was beautiful and made one, worn and jaded with the world like myself, half resume the bright hopes and aspirations of youth. I have often smiled at him as he reared castles in the air, and he would tell me, "Boott, you don't know what the numerical system is to do. It has been discovered since you entered into practice. It is going to introduce a mathematical precision into our Science." □

JAMES JACKSON SR. (1777-1867) was educated at Harvard College and Harvard Medical School. After spending a year in London studying anatomy in 1799, he came home to practice medicine in Boston for the next seven decades. He taught courses on the theory and practice of medicine to Harvard medical students from 1821 to 1835, and was well respected for his therapeutic knowledge. Jackson is also remembered as a founder of Massachusetts General Hospital. Ironically, the structure named after him at MGH is primarily a non-ward research building.

In 1801, Jackson Sr. married Elizabeth Cabot. Although they had nine children, James Jr. was clearly his father's favorite. Jackson mourned his son in *Memoir of James Jackson, Jr., M.D.* (Boston, 1835), in which he published a number of James Jr.'s letters, translations of Louis's letters, and some of his own responses. Twenty years later, Jackson Sr.'s classic



medical work *Letters to a Young Physician* appeared; one suspects he was still writing to his lost son.

—Margaret Warner

Academic Careers

by Clyde Evans

This progress report on the representation of minority groups among the Harvard Medical School faculty is the first in a series of Bulletin articles on the status of minorities at HMS.

Clyde Evans is director of the Office for Academic Careers, established in 1981 to assist HMS faculty. The office offers consultation about career decisions and personal life choices; referral to other faculty who can help locate or provide academic opportunities; and information about such concerns as grants and fellowships and the appointment and promotion system.

Through its Office for Parenting (see the piece by Maureen Sayres in this issue), the OAC offers information on day care and other parenting supports. In addition, the OAC seeks to increase the diversity of the faculty by working toward the appointment and retention of women and members of minority groups.

Much of this article, which is not a comprehensive report, focuses on blacks, as there are meaningful statistics available only for that group. Where it is possible to generalize, the discussion refers to all underrepresented minorities.

Blacks, Hispanics, Asians, and Native Americans form the minority groups identified by the federal government in its civil rights efforts over the past 20 years. At HMS, Asians are not underrepresented, and there are so few Native Americans that there is little to analyze. The data available for Hispanics on the faculty are aggregated under one heading, blurring the important sub-categories of Mexican American, mainland and commonwealth Puerto Rican, and foreign-born Spanish-speaking. Hispanics constitute about 1.2 percent of HMS faculty. More than half of that group is foreign-born. The data are not broken down any further.

The history in this country of the treatment of minorities is a sad one. Its pervasive effect of excluding certain groups from parts of American life is felt no less at Harvard Medical School than in any other institution in our society.

It is not surprising that in the 1960s there were few black medical faculty at HMS or any other U.S. medical school (with the obvious exceptions of predominantly black Howard and Meharry). At that time there were relatively few black medical students, and even fewer black trainees in postgraduate programs that produce academic physicians and scientists. Over the past two decades, HMS has made a commitment to affirmative action that has resulted in a relatively constant black student representation, since 1971, of approximately nine percent—close to the 12 percent in the general population.

There has not been a similar increase in the number of HMS black faculty over the same period, even allowing for the long training period between becoming a student and joining the faculty. Just under one percent of the HMS faculty is black.

Although there have always been a few black students at HMS since the end of the 19th century, half of the 20th century passed before black physician and scientist W.A. Hinton was made professor of bacteriology and immunology in 1949. This precedent-setting appointment came only after Hinton had been affiliated with HMS for 37 years—25 years after his first appointment as instructor—and long after he had established his national and international reputation with the Hinton test for syphilis. By 1949 he was rather infirm, was about to retire, and was a few years from death. It is difficult to avoid the conclusion that Hinton had earned his appointment long before then.

But 1949 it was, marking the beginning of the present era in which blacks have become full-fledged members of the HMS faculty. By 1970 there were five black faculty (one assistant, two associate, and two full professors); today there are 17 (11 assistant, one associate, and five full professors).

Harvard Medical School's efforts to increase the number of minority faculty have ranged from recruiting by individual departments, to the formation of the Central Re-

cruiting Council (a group of minority residents at HMS, BU, and Tufts) in the early '70s, to the formal establishment of the Office for Academic Careers. The most important efforts take place at the department and selection committee level. In decentralized institutions such as HMS and affiliated hospitals, that level is where the decisions are made. It is also crucial, history has shown, that the commitment to such efforts be clearly affirmed at the highest level, such as that of hospital director, and communicated to those below.

At HMS there has been support at both levels. In 1980, Dean Tosteson established the Committee on Minorities, specifically charged with promoting "the appointment of minority individuals to the faculty, to the house staffs in the Harvard-affiliated hospitals, and to the Medical Scientist Training programs." The next year, the faculty established the Office for Academic Careers. The institutional efforts described below are primarily those of the OAC and the Committee on Minorities. Since I staff an office of one, am an *ex officio* member of the Committee on Minorities, and have been involved in every effort of that committee, the work of the two organizations tends to overlap—although some efforts have clearly been initiated by one rather than the other.

Our work is informed by a number of painful facts about black faculty recruitment. First, blacks constitute only 1.7 percent of all medical school faculty nationwide—and not all of them meet HMS standards (as is also true of the non-minority faculty across the country). One-quarter of the national pool of black faculty is concentrated at three predominantly black medical schools. Many of those have consciously chosen to be in those schools, and thus are unavailable to us here. Individual departments have made genuine efforts to recruit black faculty—but, as the statistics indicate, these efforts have not met with great success.

Second, the paucity of black faculty at HMS makes the school unattractive for some who might otherwise be successfully recruited here. HMS is further hurt by both sides of a supply and demand phenomenon: the few black faculty out there are in great demand, and are aggressively recruited by many schools. And there is never a shortage of outstanding people to fill the ranks at HMS and its affiliated hospitals. In a sense, HMS is a victim of its own success.

Historically, especially over the last generation or so, HMS has produced capable medical faculty members who have left to help create fine medical faculties elsewhere.

The HMS faculty is truly home grown: 84 percent of its assistant professors and 92 percent of its associate professors are promoted from within. Thus, the recruitment of black faculty—while it must be aggressively continued—is not likely to produce substantial gains.

One simple idea suggests itself: to train black faculty here and bring them up through the system—especially since that is the way most HMS faculty get to be HMS faculty. The single most crucial entry point into the HMS system is internship/residency, for which the decisions are made by the hospital program and department, not the medical school. Blacks currently constitute 1.8 percent of all trainees at Harvard-affiliated hospitals. This is the smallest percentage of any minority group in the Harvard system (save Native Americans). In contrast, 5.2 percent of the available trainee pool—all new M.D.s and Ph.D.s in biological sciences—is black.

The difficulty of attracting more black trainees to HMS is suggested in a study by one of my former colleagues, James Blackwell, at University of Massachusetts. In a 1983 study published by the Southern Education Foundation, he found that the presence of black faculty is the single most significant predictor of success for recruiting black graduate and professional students. (The relevant analog for us is the recruitment of black residents.)

Few black students apply for residency training programs at HMS-affiliated hospitals, and few of those who do apply are ranked highly enough by hospital selection committees for the National Residency Matching Program to get in. Of those who are highly enough ranked, some choose to go elsewhere. And of those who train here, few remain for specialty training and fellowships.

The OAC and the Committee on Minorities have been trying to discover and understand the factors that lead to these patterns, and to devise responses and interventions. Our overall objectives break down into four specific goals: to get more minority students of all kinds to apply for Harvard residencies, to get more students accepted (by helping students be more competitive and hospitals

Blacks constitute 1.7 percent of medical school faculty nationwide. One-quarter of that small pool is concentrated at three predominantly black medical schools.

be more receptive), to encourage/convince highly ranked students to enter the programs, and to support residents and help prepare them for advancement to the next stage.

Why don't more academically gifted minority students choose to apply to Harvard residencies? The answer may be partially found in certain widely held perceptions of Boston and HMS. For many years, particularly since the highly publicized school desegregation conflicts of the late '70s, Boston has had an extremely negative image in the minds of many minority people. It is perceived, rightly or wrongly, as an inhospitable place for members of minority groups to live and nurture families. (I personally believe that although this image was well earned, it is not as richly deserved now as it was in the past. Even so, it remains a powerful deterrent.)

Second, Harvard has the image of an elitist, intensely competitive, dog-eat-dog world. Last, the scarcity of other members of minority groups at HMS, especially at the faculty level, is interpreted as an indication that minority physicians and scientists are not really wanted or encouraged here. And of course there are today many other fine training programs that can be perceived to carry fewer of the above drawbacks.

The Committee on Minorities is finalizing plans this year for a program to encourage non-HMS medical students to take one of their clinical clerkships at an HMS-affiliated hospital. This program will expose minority medical students to HMS, the city of Boston, and minority group members who have chosen to be here—and will expose HMS faculty to capable minority students. The long-range plan is to encourage minority student interest in training at Harvard, and to get the word out that Harvard is serious about seeking minority trainees.

An important part of the program will be the matching of each visiting medical student with a minority faculty member to provide potential trainees with an informed view of Boston, Harvard-affiliated hospitals, and academic careers in general. With the cooperation of hospital staff, we will try to give the visiting students personal contact with key faculty. We have been meeting with hospital directors, department heads, and residency program directors to lay the

groundwork for this program and identify ways in which the Committee on Minorities and the OAC can assist internship recruiting efforts. Through the National Association of Medical Minority Educators, we have been drawing upon our network at medical schools across the country to interest minority students in doing clerkships at Harvard-affiliated hospitals.

We are also encouraging more HMS minority students to apply to Harvard training programs. HMS graduates make up 10 percent of all Harvard trainees. This year the Committee on Minorities sent a questionnaire on internship choices to all fourth-year minority students. We hope the results will tell us what might be done to increase these students' interest in remaining at Harvard.

Clearly, recruitment must begin long before students enter medical school. Harvard organizations are taking a number of measures to increase awareness of academic career options among high school and college minority students. Last year during Black History Month, science students from the Boston city schools came to HMS for a half-day of panel presentations and small group discussions on the health professions as career options. The sponsors included the OAC, the Committee on Minorities, the Joint Committee on the Status of Women, the Affirmative Action Committee of Harvard School of Public Health, and the HMS Office for Student Affairs. Over the last several years, the Committee on Minorities, the Joint Committee on the Status of Women, and the OAC have produced several videotapes chronicling the professional and personal lives of several minority faculty. Many college and high school audiences across the country have seen these tapes. The OAC has been invited to present excerpts from the tapes to Harvard undergraduates this spring.

Last fall the OAC, the Committee on Minorities, and the Harvard Minority Biomedical Science Society (with a membership that ranges from undergraduates to faculty) sponsored a panel and discussion on career development for minority physicians and scientists. One of the main objectives was to present academic careers as an option. Through contacts with the Student National Medical Association, I am also working on ways to interest minority students across the country in academic careers. In May I'll give a presentation on academic careers at the annual Minority Pre-



W.A. Hinton; in 1949 he became the first black full professor at HMS (in bacteriology and immunology)

Med Conference, jointly sponsored by HMS, Tufts, and BU, drawing students from all over New England.

These efforts are especially crucial in the face of a shrinking pool of minority students. The enrollment of black medical students across the country peaked in 1974-75 at 6.3 percent, sank to about 5.5 percent, and has recovered somewhat in the last couple of years (these figures are from the Association of American Medical Colleges Fall Enrollment Surveys). The number of black students going to college is decreasing at an alarming rate. According to the Scientific Manpower Commission, in 1983 approximately 500,000 more black students graduated from high school than in 1976, but 8,000 fewer black students were enrolled in college. And more and more black college graduates are choosing professions other than medicine, such as engineering, law, or business.

An article in the December 12, 1985, *New England Journal of Medicine* (volume 313, p. 1519) documents that, as a group, minority medical students are much more likely to go into primary care than are their non-minority fellow students. This finding confirms empirically what many practitioners have known for some time. In the judgment of my colleagues from across the country who have had experience with students from the whole spectrum of backgrounds, there are two factors that influence minority students as a group to choose private practice. First, because their role models tend to be practicing physicians, they are more likely to envision the doctor's role as seeing patients rather than doing research. Second, they tend to value serving their own communities and helping the needy and underserved. Such values represent the noblest tradition of the medical profession, and clearly are not incompatible with an academic career. Yet the academic alternative might never occur to these students—particularly if they think "academic" means doing research at the lab bench.

Studies by the National Academy of Sciences have found that scientific researchers tend to come from well-educated, professional parents (*Profiles of Ph.D.s in the Sciences*, 1965). Recent data published by College Board Publications (*Equality and Excellence: The Educational Status of Black Americans*, 1985) also show that one-half of all black college students come from families with in-

comes of less than \$12,000 (only 10 percent of white students are in that category). These two findings suggest deep-rooted forces in our society impeding the rapid increase of the numbers of black—and possibly other minority—faculty.

Perhaps the first wave of minority physicians will not produce a large percentage of researchers. Maybe that must wait for the second and third waves. Perhaps future minority physicians will have a greater interest in, and feel freer to follow, academic pursuits if intervening groups have by then both blazed new ground in research and helped reduce the glaring disparities in health care between minorities and the rest of the population.

All the problems discussed here occur in a social and political environment very different from that in place when the notion of acting affirmatively was first articulated. The present federal administration has not taken the lead in affirmative action, and has chosen not to enforce much of the existing civil rights legislation. This reversal has removed what was once a powerful incentive for change and action within our institutions. Also, there is no longer as much call for change from students or faculty within our schools.

In the absence of pressure to act in affirmative ways—as distinct from a passive policy of non-discrimination—we are more dependent than ever upon the resolve of individuals to do what they can, and to see that their units (departments, training programs, hospitals) do what they can. I am encouraged by the support I have found not only at the medical school but at the highest levels of the university. At Harvard we are fortunate to have a president who not only retains a commitment to affirmative action, but who has said so publicly. In a recent editorial in *The Washington Post*, Derek Bok wrote that the "most substantial pressure to hire more minorities and women has come not from the government but from private sources both inside and outside the university." He concluded, "I, for one, will continue to set [hiring] goals gladly, buoyed by the realization that they may at least make some contribution to diminish an enormous problem for us all."

We in the medical community must follow that lead and find new and better ways to resolve what still remains our American dilemma. □

I am encouraged by the support for affirmative action I have found not only at the medical school but at the highest levels of the university.



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